



## Massachusetts Cannabis Control Commission

### Marijuana Product Manufacturer

#### General Information:

License Number: MP281871  
Original Issued Date: 09/11/2020  
Issued Date: 08/12/2021  
Expiration Date: 09/11/2022

### ABOUT THE MARIJUANA ESTABLISHMENT

Business Legal Name: Cultivauna, LLC

Phone Number: 978-376-4151 Email Address: Matt@levia.buzz

Business Address 1: 68 Tenney Street Business Address 2:

Business City: Georgetown Business State: MA Business Zip Code: 01833

Mailing Address 1: 68 Tenney Street Mailing Address 2:

Mailing City: Georgetown Mailing State: MA Mailing Zip Code: 01833

### CERTIFIED DISADVANTAGED BUSINESS ENTERPRISES (DBES)

Certified Disadvantaged Business Enterprises (DBEs): Not a DBE

### PRIORITY APPLICANT

Priority Applicant: no

Priority Applicant Type: Not a Priority Applicant

Economic Empowerment Applicant Certification Number:

RMD Priority Certification Number:

### RMD INFORMATION

Name of RMD:

Department of Public Health RMD Registration Number:

Operational and Registration Status:

To your knowledge, is the existing RMD certificate of registration in good standing?:

If no, describe the circumstances below:

### PERSONS WITH DIRECT OR INDIRECT AUTHORITY

Person with Direct or Indirect Authority 1

Percentage Of Ownership: 25.33 Percentage Of Control: 33.3

Role: Owner / Partner Other Role:

First Name: Kristin Last Name: Rogers Suffix:

Gender: Female	User Defined Gender:
What is this person's race or ethnicity?: White (German, Irish, English, Italian, Polish, French)	
Specify Race or Ethnicity:	

#### Person with Direct or Indirect Authority 2

Percentage Of Ownership: 7.08	Percentage Of Control: 33.3	
Role: Executive / Officer	Other Role:	
First Name: Matthew	Last Name: Melander	Suffix:
Gender: Male	User Defined Gender:	
What is this person's race or ethnicity?: White (German, Irish, English, Italian, Polish, French)		
Specify Race or Ethnicity:		

#### Person with Direct or Indirect Authority 3

Percentage Of Ownership: 23.3	Percentage Of Control: 33.3	
Role: Owner / Partner	Other Role:	
First Name: Kaitlyn	Last Name: Brosnan	Suffix:
Gender: Female	User Defined Gender:	
What is this person's race or ethnicity?: White (German, Irish, English, Italian, Polish, French)		
Specify Race or Ethnicity:		

#### Person with Direct or Indirect Authority 4

Percentage Of Ownership: 2	Percentage Of Control:	
Role: Board Member	Other Role:	
First Name: Linda	Last Name: Clarke	Suffix:
Gender: Female	User Defined Gender:	
What is this person's race or ethnicity?: White (German, Irish, English, Italian, Polish, French)		
Specify Race or Ethnicity:		

#### Person with Direct or Indirect Authority 5

Percentage Of Ownership: 2	Percentage Of Control:	
Role: Director	Other Role:	
First Name: Jordani	Last Name: Joseph	Suffix:
Gender: Male	User Defined Gender:	
What is this person's race or ethnicity?: Black or African American (of African Descent, African American, Nigerian, Jamaican, Ethiopian, Haitian, Somali)		
Specify Race or Ethnicity:		

#### ENTITIES WITH DIRECT OR INDIRECT AUTHORITY

No records found

#### CLOSE ASSOCIATES AND MEMBERS

No records found

#### CAPITAL RESOURCES - INDIVIDUALS

No records found

#### CAPITAL RESOURCES - ENTITIES

Entity Contributing Capital 1

**Entity Legal Name:** OHYA LLC **Entity DBA:**

**Email:** tyson.rob@gmail.com **Phone:** 774-217-8015

**Address 1:** 12 Battery Street **Address 2:** #3

**City:** Boston **State:** MA **Zip Code:** 02109

**Types of Capital:** Monetary/Equity **Other Type of Capital:** Total Value of Capital Provided: \$600000 Percentage of Initial Capital: 23

**Capital Attestation:** Yes

#### Entity Contributing Capital 2

**Entity Legal Name:** Kathleen B Bruyette Trust **Entity DBA:**

**Email:** kbruy10@aol.com **Phone:** 772-287-6217

**Address 1:** 5111 SE Brandywine Way **Address 2:**

**City:** Stuart **State:** FL **Zip Code:** 34997

**Types of Capital:** Monetary/Equity **Other Type of Capital:** Total Value of Capital Provided: \$500000 Percentage of Initial Capital: 20

**Capital Attestation:** Yes

#### BUSINESS INTERESTS IN OTHER STATES OR COUNTRIES

No records found

#### DISCLOSURE OF INDIVIDUAL INTERESTS

No records found

#### MARIJUANA ESTABLISHMENT PROPERTY DETAILS

**Establishment Address 1:** 68 Tenney Street

**Establishment Address 2:**

**Establishment City:** Georgetown **Establishment Zip Code:** 01833

**Approximate square footage of the Establishment:** 6000 **How many abutters does this property have?:** 3

**Have all property abutters have been notified of the intent to open a Marijuana Establishment at this address?:** Yes

#### HOST COMMUNITY INFORMATION

Host Community Documentation:

Document Category	Document Name	Type	ID	Upload Date
Community Outreach Meeting Documentation	Tinc community meeting letter.pdf	pdf	5ecd45ecf16b5934c591c9c4	05/26/2020
Community Outreach Meeting Documentation	Attachment A_Georgetown Public Meeting Notice May 21 2020.pdf	pdf	5ecd47df5c6c422d41afd48f	05/26/2020
Community Outreach Meeting Documentation	Attachment B_Updated Community Outreach Meeting.pdf	pdf	5ecd47e7502f482d48991ad7	05/26/2020
Community Outreach Meeting Documentation	Attachment C_Community Mtg Notifications.pdf	pdf	5ecd47f0ddb8c72d5360c866	05/26/2020
Community Outreach Meeting Documentation	Community Outreach Meeting Attestation_TINC.pdf	pdf	5ecd534d0f96d32d20671a18	05/26/2020
Certification of Host Community Agreement	Tinc HCA Cert.pdf	pdf	5ed54f21070c4b3e399ea569	06/01/2020
Plan to Remain Compliant with Local Zoning	TINC Plan to Remain Compliant with Local Zoning 2020.pdf	pdf	5ee28a443114301800252a96	06/11/2020

Total amount of financial benefits accruing to the municipality as a result of the host community agreement. If the total amount is zero, please enter zero and provide documentation explaining this number.: \$44181

#### PLAN FOR POSITIVE IMPACT

Plan to Positively Impact Areas of Disproportionate Impact:

Document Category	Document Name	Type	ID	Upload Date
Plan for Positive Impact	Updated for RF12 - TINC Positive Impact Plan.pdf	pdf	5f1b2a6c73630b702d45db35	07/24/2020

#### ADDITIONAL INFORMATION NOTIFICATION

Notification:

#### INDIVIDUAL BACKGROUND INFORMATION

##### Individual Background Information 1

Role: Other Role:  
First Name: Eric Last Name: Rogers Suffix:  
RMD Association: Not associated with an RMD  
Background Question: no

##### Individual Background Information 2

Role: Other Role:  
First Name: Kristin Last Name: Rogers Suffix:  
RMD Association: Not associated with an RMD  
Background Question: no

##### Individual Background Information 3

Role: Other Role:  
First Name: Linda Last Name: Clarke Suffix:  
RMD Association: Not associated with an RMD  
Background Question: no

##### Individual Background Information 4

Role: Other Role:  
First Name: Matthew Last Name: Melander Suffix:  
RMD Association: Not associated with an RMD  
Background Question: no

##### Individual Background Information 5

Role: Other Role:  
First Name: Jordani Last Name: Joseph Suffix:  
RMD Association: RMD Staff  
Background Question: no

##### Individual Background Information 6

Role: Other Role:  
First Name: Kaitlyn Last Name: Brosnan Suffix:  
RMD Association: Not associated with an RMD  
Background Question: no

**ENTITY BACKGROUND CHECK INFORMATION**

## Entity Background Check Information 1

**Role:** Investor/Contributor      **Other Role:**  
**Entity Legal Name:** OHYA LLC      **Entity DBA:**  
**Entity Description:** Private LLC  
**Phone:** 774-217-8015      **Email:** tyson.robbs@gmail.com  
**Primary Business Address 1:** 12 Battery Street      **Primary Business Address 2:** #3  
**Primary Business City:** Boston      **Primary Business State:** MA      **Principal Business Zip Code:** 02109  
**Additional Information:**

## Entity Background Check Information 2

**Role:** Investor/Contributor      **Other Role:**  
**Entity Legal Name:** Kathleen B Bruyette Trust      **Entity DBA:**  
**Entity Description:** Trust  
**Phone:** 772-287-6217      **Email:** kbruy10@aol.com  
**Primary Business Address 1:** 5111 SE Brandywine Way      **Primary Business Address 2:**  
**Primary Business City:** Stuart      **Primary Business State:** FL      **Principal Business Zip Code:** 34997  
**Additional Information:**

**MASSACHUSETTS BUSINESS REGISTRATION**

## Required Business Documentation:

Document Category	Document Name	Type	ID	Upload Date
Articles of Organization	Cultivauna DBA TINC.pdf	pdf	5ee8f6229a439417df7e7048	06/16/2020
Department of Revenue - Certificate of Good standing	Cultivauna DBA TINC_Certificate of Good Standing from the Massachusetts Department of Revenue.pdf	pdf	5ee8f76af5e90617d832de20	06/16/2020
Secretary of Commonwealth - Certificate of Good Standing	Cultivauna DBA TINC_Certificate of Good Standing from the Secretary of the Commonwealth of Massachusetts.pdf	pdf	5ee8f7729a439417df7e7050	06/16/2020
Articles of Organization	Cultivauna (TINC) LLC Agreement.pdf	pdf	5ee8f7b4f5e90617d832de24	06/16/2020
Secretary of Commonwealth - Certificate of Good Standing	TINC - Dept of Unemployment - MA UI Certificate of Good Standing-Compliance.pdf	pdf	5f11cbb47b30b674269a76db	07/17/2020
Bylaws	TINC Memo to CCC_re LLC Agreement as OA & BYLAWS_7.14.2020.pdf	pdf	5f11cbb554fcae70383a87e3	07/17/2020
Secretary of Commonwealth - Certificate of Good Standing	RFI2 - TINC - Sec of State - Cert. of Amendment CULTIVAUNA LLC 6.15.2020.pdf	pdf	5f1b2ac562a1117473fb826d	07/24/2020
Bylaws	RFI2 Update - Memo re TINC Company Control 7.23.2020.pdf	pdf	5f1b2b081c4abd74527f4ae6	07/24/2020

## Certificates of Good Standing:

Document Category	Document Name	Type	ID	Upload Date
Department of Unemployment Assistance - Certificate of Good standing	Renewal App - DUA Good Standing Letter - Cultivauna.pdf	pdf	60e79e51629ad9037af1f775	07/08/2021

Secretary of Commonwealth - Certificate of Good Standing	Renewal App - Sec of State Good Standing Letter.pdf	pdf	60ec4c2d0bb484027d8be64f	07/12/2021
Department of Revenue - Certificate of Good standing	Renewal App - Dept of Revenue Good Standing Letter.pdf	pdf	60fecd73314c7a086de9822c	07/26/2021

Massachusetts Business Identification Number: 001259069

Doing-Business-As Name: LEVIA

DBA Registration City: Georgetown

### BUSINESS PLAN

Business Plan Documentation:

Document Category	Document Name	Type	ID	Upload Date
Business Plan	TINC Business Plan May 2020.pdf	pdf	5ede9a5aea7a9324e6464d38	06/08/2020
Proposed Timeline	Updated for RFI - TINC Business Plan Proposed Timeline 2020.pdf	pdf	5f11cdc9cfe2dd743cd66c79	07/17/2020
Plan for Liability Insurance	Updated for RFI - TINC Business Plan Liability Insurance 2020.pdf	pdf	5f11cdcac124977059ce66de	07/17/2020

### OPERATING POLICIES AND PROCEDURES

Policies and Procedures Documentation:

Document Category	Document Name	Type	ID	Upload Date
Sample of unique identifying marks used for branding	TINC_Branding.pdf	pdf	5ed11e60037b113e6c636cb4	05/29/2020
Prevention of diversion	TINC Plan to Prevent Diversion.pdf	pdf	5ede97a3c6c85217ea375038	06/08/2020
Storage of marijuana	TINC Plan for Storage of Marijuana May 2020.pdf	pdf	5ede97fc1c2dbc24d01a0c0a	06/08/2020
Record Keeping procedures	TINC Record Keeping Procedures May 2020.pdf	pdf	5ede994320b47424dbd87001	06/08/2020
Restricting Access to age 21 and older	TINC plan to Restrict Access to Individuals 21 Years of Age or Older 2020.pdf	pdf	5ee28b99c6c85217ea375aed	06/11/2020
Inventory procedures	TINC Plan to Obtain Marijuana or Marijuana Products 2020.pdf	pdf	5ee389150f089824f1cd5283	06/12/2020
Record Keeping procedures	TINC Energy and Environment Compliance Plan 2020.pdf	pdf	5ee93010f5e90617d832df3f	06/16/2020
Security plan	Updated for RFI - TINC Security Plan 2020.pdf	pdf	5f11ce5544827474644e9276	07/17/2020
Transportation of marijuana	Updated for RFI - TINC Transportation Plan 2020.pdf	pdf	5f11ce90c124977059ce66e6	07/17/2020
Inventory procedures	Updated for RFI - TINC Inventory Procedures 2020.pdf	pdf	5f11cec362a1117473fb6db1	07/17/2020
Quality control and testing	Updated for RFI - TINC Quality Control and Testing 2020.pdf	pdf	5f11cef11c4abd74527f35d6	07/17/2020
Personnel policies including	Updated for RFI - TINC Personnel Policies and	pdf	5f11cf211c4abd74527f35da	07/17/2020

background checks	Background Checks 2020.pdf			
Maintaining of financial records	Updated for RFI - TINC Maintenance of Financial Records 2020.pdf	pdf	5f11cf641c4abd74527f35e0	07/17/2020
Qualifications and training	Updated for RFI - TINC Qualifications and Training 2020.pdf	pdf	5f11cf97c124977059ce66f7	07/17/2020
Types of products Manufactured.	Updated for RFI - TINC Products for Manufacture 2020.pdf	pdf	5f11cff87b30b674269a7708	07/17/2020
Method used to produce products	Updated for RFI - TINC Methods of Production 2020.pdf	pdf	5f11d01e54fcae70383a8808	07/17/2020
Diversity plan	Updated for RFI2 - TINC DIVERSITY PLAN.pdf	pdf	5f1b2b4f7b30b674269a8b96	07/24/2020
Quality control and testing	TINC - Manufacturing Facility Safety Plan.pdf	pdf	5f1b2b8344827474644ea71a	07/24/2020

### ATTESTATIONS

I certify that no additional entities or individuals meeting the requirement set forth in 935 CMR 500.101(1)(b)(1) or 935 CMR 500.101(2)(c)(1) have been omitted by the applicant from any marijuana establishment application(s) for licensure submitted to the Cannabis Control Commission.: I Agree

I understand that the regulations stated above require an applicant for licensure to list all executives, managers, persons or entities having direct or indirect authority over the management, policies, security operations or cultivation operations of the Marijuana Establishment; close associates and members of the applicant, if any; and a list of all persons or entities contributing 10% or more of the initial capital to operate the Marijuana Establishment including capital that is in the form of land or buildings.: I Agree

I certify that any entities who are required to be listed by the regulations above do not include any omitted individuals, who by themselves, would be required to be listed individually in any marijuana establishment application(s) for licensure submitted to the Cannabis Control Commission.: I Agree

Notification:

I certify that any changes in ownership or control, location, or name will be made pursuant to a separate process, as required under 935 CMR 500.104(1), and none of those changes have occurred in this application.: I Agree

I certify that to the best knowledge of any of the individuals listed within this application, there are no background events that have arisen since the issuance of the establishment's final license that would raise suitability issues in accordance with 935 CMR 500.801.: I Agree

I certify that all information contained within this renewal application is complete and true.: I Agree

### ADDITIONAL INFORMATION NOTIFICATION

Notification:

### COMPLIANCE WITH POSITIVE IMPACT PLAN

Progress or Success Goal 1

Description of Progress or Success: See attached for commitment to our community with our Positive Impact Plan.

### COMPLIANCE WITH DIVERSITY PLAN

Diversity Progress or Success 1

Description of Progress or Success: See attached for progress with our Diversity Plan.

### PRODUCT MANUFACTURER SPECIFIC REQUIREMENTS

Item 1

Label Picture:

Document Category	Document Name	Type	ID	Upload Date
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**Name of Item:** Achieve Seltzer **Item Type:** Edible MIP

**Item Description:** Cannabis Infused Seltzer

12oz | 355ml

5MG THC

Achieve Seltzer is a raspberry-lime sparkling water, energized with the LEVIA Achieve sativa blend.

There are four ingredients: Purified Water, Natural Flavors, CO2 Extracted Cannabis Oil, and citric acid.

#### Item 2

Document Category	Document Name	Type	ID	Upload Date
	Cultivauna - Celebrate Seltzer Label Design (Final).pdf	pdf	60e5f6fc1159b60338d4d490	07/07/2021

**Name of Item:** Celebrate Seltzer **Item Type:** Edible MIP

**Item Description:** Cannabis Infused Seltzer

12oz | 355ml

5MG THC

Celebrate seltzer is a lemon-lime sparkling water, enhanced with the LEVIA Celebrate hybrid blend.

There are four ingredients: Purified Water, Natural Flavors, CO2 Extracted Cannabis Oil, and citric acid.

#### Item 3

Document Category	Document Name	Type	ID	Upload Date
	Cultivauna - Dream Seltzer Label Design (Final).pdf	pdf	60e5f7f523f3f9033f375304	07/07/2021

**Name of Item:** Dream Seltzer **Item Type:** Edible MIP

**Item Description:** Cannabis Infused Seltzer

12oz | 355ml

5MG THC

Dream seltzer is a jam berry sparkling water, enhanced with the LEVIA Dream indica blend.

There are four ingredients: Purified Water, Natural Flavors, CO2 Extracted Cannabis Oil, and citric acid.

#### Item 4

Document Category	Document Name	Type	ID	Upload Date
	Cultivauna - Achieve Tincture Bottle Label Design (Final).pdf	pdf	60e5f76f7a4b3b034a67fd56	07/07/2021
	Cultivauna - Achieve Tincture Box Label Design (Final).pdf	pdf	60e5f770fb983a0274aac597	07/07/2021

**Name of Item:** Achieve Tincture **Item Type:** Tincture

**Item Description:** Premium Water Soluble Tincture

1oz | 30ml

Achieve tincture is water soluble tincture made with sativa Co2 oil.

There are three ingredients: CO2 Extracted Cannabis Oil, Natural Flavors, Water

#### Item 5

Document Category	Document Name	Type	ID	Upload Date
	Cultivauna - Celebrate Tincture Bottle Label Design (Final).pdf	pdf	60e5f7a60bb484027d8bd5b4	07/07/2021
	Cultivauna - Celebrate Tincture Box Label Design (Final).pdf	pdf	60e5f7a7504b25036f755d03	07/07/2021

**Name of Item:** Celebrate Tincture

**Item Type:** Tincture

**Item Description:** Premium Water Soluble Tincture

1oz | 30ml

Celebrate tincture is water soluble tincture made with hybrid Co2 oil

There are three ingredients: CO2 Extracted Cannabis Oil, Natural Flavors, Water

#### Item 6

Document Category	Document Name	Type	ID	Upload Date
	Cultivauna - Dream Tincture Bottle Label Design (Final).pdf	pdf	60e5f7ce0bb484027d8bd5be	07/07/2021
	Cultivauna - Dream Tincture Box Label Design (Final).pdf	pdf	60e5f7cf504b25036f755d09	07/07/2021

**Name of Item:** Dream Tincture

**Item Type:** Tincture

**Item Description:** Premium Water Soluble Tincture

1oz | 30ml

Dream tincture is water soluble tincture made with indica Co2 oil

There are three ingredients: CO2 Extracted Cannabis Oil, Natural Flavors, Water

#### HOURS OF OPERATION

<b>Monday From:</b> 7:00 AM	<b>Monday To:</b> 7:00 PM
<b>Tuesday From:</b> 7:00 AM	<b>Tuesday To:</b> 7:00 PM
<b>Wednesday From:</b> 7:00 AM	<b>Wednesday To:</b> 7:00 PM
<b>Thursday From:</b> 7:00 AM	<b>Thursday To:</b> 7:00 PM
<b>Friday From:</b> 7:00 AM	<b>Friday To:</b> 7:00 PM
<b>Saturday From:</b> 7:00 AM	<b>Saturday To:</b> 7:00 PM
<b>Sunday From:</b> Closed	<b>Sunday To:</b> Closed



*Town of Georgetown  
Massachusetts*

May 6, 2020

Cannabis Control Commission  
Union Station  
2 Washington Square  
Worcester, MA 01604

RE: Cultivauna, LLC (dba TINC) Approval for Virtual Community Meeting during COVID-19

To whom it may concern:

My name is Michael Farrell, Town Administrator for the Town of Georgetown, Massachusetts and write today as the Authorized Agent for the Host Community for Cultivauna, LLC (dba TINC). Please accept this document as proof of approval by the Contracting Authority or Authorized Representative of the host community for Cultivauna, LLC (dba TINC) to hold a virtual community outreach meeting per Cannabis Control Commission Administrative Order No. 2, M.G.L. c. 94G, and 935 CMR 500.000.

TINC had previously hosted an in-person community outreach meeting, as required by 935 CMR 500.000, on December 6<sup>th</sup>, 2018 from 5-7pm. The meeting was held, and representatives from the town were present at, the VFW located at 435 Andover Street, Georgetown MA 01833. However, TINC has requested to host a second, virtual meeting, in order to comply with the Commission's standing regulations and Administrative Order No. 2 before submitting an application for licensure. I hereby grant such request and authorize the virtual meeting.

If you have any questions regarding this letter, or my ability to act as an Authorized Representative of the host community, please reach out to me at any time.

Thank you,

Michael Farrell, Town Administrator  
Georgetown Town Hall  
1 Library Street  
Georgetown, MA 01833  
(978) 352-5755

**From:** Eric Rogers [eric@trytinc.com](mailto:eric@trytinc.com)  
**Subject:** Georgetown Public Meeting Notice May 21, 2020  
**Date:** May 6, 2020 at 2:03 PM  
**To:** [georgetown@wickedlocal.com](mailto:georgetown@wickedlocal.com)



Hi,

Can you please post the following for an upcoming approved virtual community outreach meeting in Georgetown?

Notice is hereby given that a Virtual Community Outreach Meeting for a proposed Marijuana Establishment is scheduled for Thursday, May 21, 2020 from 5 - 7pm. The meeting can be accessed through the following link: <https://meet.google.com/sgk-hbhs-sav?hs=122>. The proposed Marijuana Product Manufacturer is anticipated to be located at 68 Tenney Street, Georgetown, MA. There will be an opportunity for the public to ask questions, but if you'd like to submit a question ahead of time, please email [talk2tinc@trytinc.com](mailto:talk2tinc@trytinc.com) with the subject line "Community Outreach Meeting." This meeting will be closed captioned and recorded.

Thank you!

Eric

**ERIC ROGERS**  
CO-FOUNDER

617-529-6081 (m)  
[eric@trytinc.com](mailto:eric@trytinc.com)

[www.trytinc.com](http://www.trytinc.com)



On Thu, Nov 29, 2018 at 4:39 PM Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)> wrote:

Hi - can you please post the following?

Notice is hereby given that a Community Outreach Meeting for a proposed Marijuana Establishment is scheduled for Thursday December 6th, 2018 from 5 - 7pm at the VFW located at 435 Andover St, Georgetown, MA 01833. The proposed Marijuana Product Manufacturer is anticipated to be located at 68 Tenney Street, Georgetown, MA. There will be an opportunity for the public to ask questions.

Please let me know if there are any questions. I also tried to submit this through the online submission form earlier in the week.

Thanks,

Eric

**ERIC ROGERS**  
CO-FOUNDER

617-529-6081 (m)  
[eric@trytinc.com](mailto:eric@trytinc.com)

[www.trytinc.com](http://www.trytinc.com)





**From:** Janet Pantano jpantano@georgetownma.gov   
**Subject:** RE: Updated Community Outreach Meeting  
**Date:** May 6, 2020 at 3:16 PM  
**To:** Eric Rogers eric@trytinc.com

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Hi,

The notice has been posted on the Town Events Calendar.

<https://www.georgetownma.gov/board-selectmen/events/101704>

Best,

Janet

Janet Pantano  
Town of Georgetown  
Administrative Assistant  
Selectmen/Town Administrator  
1 Library Street  
Georgetown, MA 01833  
978-352-5755  
[www.georgetownma.gov](http://www.georgetownma.gov)

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**From:** Eric Rogers <eric@trytinc.com>  
**Sent:** Wednesday, May 6, 2020 2:24 PM  
**To:** Janet Pantano <jpantano@georgetownma.gov>  
**Subject:** Re: Updated Community Outreach Meeting

Hi Janet,

Thank you for your assistance with this. Below is the statement and link to the virtual meeting that we have scheduled.

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Notice is hereby given that a Virtual Community Outreach Meeting for a proposed Marijuana Establishment is scheduled for Thursday, May 21, 2020 from 5 - 7pm. The meeting can be accessed through the following link: <https://meet.google.com/sgk-hbhs-sav?hs=122>. The proposed Marijuana Product Manufacturer is anticipated to be located at 68 Tenney Street, Georgetown, MA. There will be an opportunity for the public to ask questions, but if you'd like to submit a question ahead of time, please email [talk2tinc@trytinc.com](mailto:talk2tinc@trytinc.com) with the subject line "Community Outreach Meeting." This meeting will be closed captioned and recorded.

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Please let me know if there is any additional info you need.

Thank you again!

Eric

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On Wed, May 6, 2020 at 9:24 AM Janet Pantano <[jpantano@georgetownma.gov](mailto:jpantano@georgetownma.gov)> wrote:

Great, I will post once you send the meeting information.

Best,

Janet

Janet Pantano  
Town of Georgetown  
Administrative Assistant  
Selectmen/Town Administrator  
1 Library Street  
Georgetown, MA 01833  
978-352-5755  
[www.georgetownma.gov](http://www.georgetownma.gov)

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**From:** Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)>  
**Sent:** Wednesday, May 6, 2020 8:23 AM  
**To:** Janet Pantano <[jpantano@georgetownma.gov](mailto:jpantano@georgetownma.gov)>  
**Cc:** Douglas Dawes <[ddawes@georgetownma.gov](mailto:ddawes@georgetownma.gov)>; Michael Farrell <[MFarrell@georgetownma.gov](mailto:MFarrell@georgetownma.gov)>; Troy Brosnan <[troy@trytinc.com](mailto:troy@trytinc.com)>  
**Subject:** Re: Updated Community Outreach Meeting

Thank you Janet!

We will follow up with the details of the virtual meeting date and link info so that can also be posted with additional information to contact us should the public want to submit questions to us ahead of time.

Thank you again!

Eric

On Wed, May 6, 2020 at 8:20 AM Janet Pantano <[jpantano@georgetownma.gov](mailto:jpantano@georgetownma.gov)> wrote:

Hi,

Attached is the signed community meeting letter for Cultivauna, LLC dba TINC. I will

send a copy to the CCC and post to the town website community calendar.

Best,

Janet

Janet Pantano  
Town of Georgetown  
Administrative Assistant  
Selectmen/Town Administrator  
[1 Library Street](#)  
[Georgetown, MA 01833](#)  
978-352-5755  
[www.georgetownma.gov](http://www.georgetownma.gov)

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**From:** Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)>  
**Sent:** Tuesday, May 5, 2020 6:05 PM  
**To:** Michael Farrell <[MFarrell@georgetownma.gov](mailto:MFarrell@georgetownma.gov)>  
**Cc:** Douglas Dawes <[ddawes@georgetownma.gov](mailto:ddawes@georgetownma.gov)>; Janet Pantano <[jpantano@georgetownma.gov](mailto:jpantano@georgetownma.gov)>; Troy Brosnan <[troy@trytinc.com](mailto:troy@trytinc.com)>  
**Subject:** Re: Updated Community Outreach Meeting

Thanks Mike!

A digital copy is perfect for us to include in our submission packet.

Thank you again,

Eric

On Tue, May 5, 2020 at 4:42 PM Michael Farrell <[MFarrell@georgetownma.gov](mailto:MFarrell@georgetownma.gov)> wrote:

Eric,  
The letter will go out tomorrow.

Mike Farrell  
Town Administrator  
Georgetown, Ma.  
978-352-5755

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**From:** Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)>  
**Sent:** Tuesday, May 5, 2020 4:02 PM  
**To:** Douglas Dawes <[ddawes@georgetownma.gov](mailto:ddawes@georgetownma.gov)>  
**Cc:** Troy Brosnan <[troy@trytinc.com](mailto:troy@trytinc.com)>; Michael Farrell <[MFarrell@georgetownma.gov](mailto:MFarrell@georgetownma.gov)>  
**Subject:** Re: Updated Community Outreach Meeting

Hi Mike,

In an effort to make this as easy as possible, please find a template for the approval attached. Feel free to change or update anything you'd like.

Thanks in advance,

Eric

On Tue, May 5, 2020 at 11:13 AM Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)> wrote:

Hi Mike,

Let me know if there is anything you need from me to get the approval going so we can schedule our virtual meeting.

Thanks,

Eric

On Thu, Apr 30, 2020 at 5:54 PM Douglas Dawes <[ddawes@georgetownma.gov](mailto:ddawes@georgetownma.gov)> wrote:

30 April 2020

Hi Mike,

Can you take care of this, please?

Doug

Doug Dawes  
Board of Selectmen  
Town Hall  
[1 Library Street](#)  
[Georgetown, MA 01833](#)  
978-270-3037 (Cell)

---

**From:** Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)>  
**Sent:** Thursday, April 30, 2020 10:57:37 AM  
**To:** Douglas Dawes  
**Cc:** Troy Brosnan; Michael Farrell  
**Subject:** Re: Updated Community Outreach Meeting

Hi Doug,

I wanted to follow up to see if we could get written approval for our virtual community meeting?

Additionally, do you know the date that Georgetown adopted the recreational bylaw?

Thanks!

Eric

---

On Tue, Apr 28, 2020 at 12:59 PM Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)> wrote:

Hi Doug,

Us too! Does that mean we have the approval to move forward with the virtual community meeting? If so could you just provide that in writing so we can include per the guidance provided by the CCC?

Thank you!

Eric

On Tue, Apr 28, 2020 at 12:57 PM Douglas Dawes  
<[ddawes@georgetownma.gov](mailto:ddawes@georgetownma.gov)> wrote:

Glad the process is moving forward

Doug Dawes  
Board of Selectmen  
Town Hall  
[1 Library Street](#)  
[Georgetown, MA 01833](#)  
978-270-3037 (Cell)

---

**From:** Eric Rogers <[eric@trytinc.com](mailto:eric@trytinc.com)>  
**Sent:** Tuesday, April 28, 2020 11:03:45 AM  
**To:** Douglas Dawes  
**Cc:** Troy Brosnan; Michael Farrell  
**Subject:** Updated Community Outreach Meeting

Hi Doug,

I hope you are staying healthy and sane through everything! Hopefully, we can start to get things back to a new normal in the coming weeks.

We are gearing up to hit submit on the application and we need to hold another community outreach meeting as the requirements are to hold within 6 months of applying. Yesterday, the CCC issued [guidance](#) on how to hold a virtual community meeting that we are working to coordinate. One of the requirements is to receive written approval from the Host Community stating that we are approved to host a virtual meeting.

Another requirement is to have a moderator present which can be a representative from the Host Community, so we wanted to ask if there is anyone from the town that would like to participate? We have a 3rd party representative available but we wanted to extend the offer.

We plan to use the Google platform to host a video/virtual community meeting. Using this platform enables us to host up to 250 attendees and

also record the meeting to provide to the town per the updated guidance.

Our goal is to host this virtual meeting the week of May 11th or 18th.

Thanks in advance for your continued partnership. We're getting there!

Talk soon,

Eric

--

ERIC ROGERS  
Co-Founder

617-529-6081  
[www.trytinc.com](http://www.trytinc.com)

--

ERIC ROGERS  
Co-Founder

617-529-6081  
[www.trytinc.com](http://www.trytinc.com)

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Postage \$0.55

**Total Postage and Fees \$4.10**

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



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**MERRIFIELD, VA 22116**

Certified Mail Fee \$3.55

Extra Services & Fees (check box, add fee if appropriate)

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☐ Certified Mail Restricted Delivery \$0.00

☐ Adult Signature Required \$0.00

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Postage \$0.55

**Total Postage and Fees \$4.10**

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



## Community Outreach Meeting Attestation Form

The applicant must complete each section of this form and initial each page before uploading it to the application. Failure to complete a section will result in the application being deemed incomplete. Instructions to the applicant appear in italics. Please note that submission of information that is "misleading, incorrect, false, or fraudulent" is grounds for denial of an application for a license pursuant to 935 CMR 500.400(1).

I, Kristin Rogers, (insert name) attest as an authorized representative of Cultivanna, LLC (insert name of applicant) that the applicant has complied with the requirements of 935 CMR 500 and the guidance for licensed applicants on community outreach, as detailed below.

1. The Community Outreach Meeting was held on May 21, 2020 (insert date).
2. A copy of a notice of the time, place, and subject matter of the meeting, including the proposed address of the Marijuana Establishment, was published in a newspaper of general circulation in the city or town on May 6<sup>th</sup>, 2020 (insert date), which was at least seven calendar days prior to the meeting. A copy of the newspaper notice is attached as Attachment A (please clearly label the newspaper notice in the upper right hand corner as Attachment A and upload it as part of this document).
3. A copy of the meeting notice was also filed on May 6<sup>th</sup>, 2020 (insert date) with the city or town clerk, the planning board, the contracting authority for the municipality, and local licensing authority for the adult use of marijuana, if applicable. A copy of the municipal notice is attached as Attachment B (please clearly label the municipal notice in the upper right-hand corner as Attachment B and upload it as part of this document).
4. Notice of the time, place and subject matter of the meeting, including the proposed address of the Marijuana Establishment, was mailed on May 6<sup>th</sup>, 2020 (insert date), which was at least seven calendar days prior to the community outreach meeting to abutters of the proposed address of the Marijuana Establishment, and residents within 300 feet of the property line of the petitioner as they appear on the most recent applicable tax list, notwithstanding that the land of any such owner is located in another city or town. A copy of one of the notices sent to abutters and parties of interest as described in this section is attached as Attachment C (please clearly label the municipal notice in the upper right hand corner as Attachment C and upload it as part of this document; please only include a copy of one notice and please black out the name and the address of the addressee).

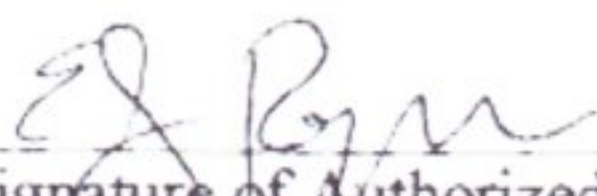
5. Information was presented at the community outreach meeting including:
  - a. The type(s) of Marijuana Establishment to be located at the proposed address;
  - b. Information adequate to demonstrate that the location will be maintained securely;
  - c. Steps to be taken by the Marijuana Establishment to prevent diversion to minors;
  - d. A plan by the Marijuana Establishment to positively impact the community; and
  - e. Information adequate to demonstrate that the location will not constitute a nuisance as defined by law.
6. Community members were permitted to ask questions and receive answers from representatives of the Marijuana Establishment.

## Host Community Agreement Certification Form

The applicant and contracting authority for the host community must complete each section of this form before uploading it to the application. Failure to complete a section will result in the application being deemed incomplete. Instructions to the applicant and/or municipality appear in italics. Please note that submission of information that is "misleading, incorrect, false, or fraudulent" is grounds for denial of an application for a license pursuant to 935 CMR 500.400(1).

### Applicant

I, ERIC ROGERS, (insert name) certify as an authorized representative of Cultivanna, LLC (d/b/a TINC) (insert name of applicant) that the applicant has executed a host community agreement with Georgetown, MA (insert name of host community) pursuant to G.L.c. 94G § 3(d) on December 3rd, 2018 (insert date).

  
Signature of Authorized Representative of Applicant

### Host Community

I, MICHAEL FARRELL, (insert name) certify that I am the contracting authority or have been duly authorized by the contracting authority for TOWN OF GEORGETOWN (insert name of host community) to certify that the applicant and GEORGETOWN, MA (insert name of host community) has executed a host community agreement pursuant to G.L.c. 94G § 3(d) on 12/3/2018 (insert date).

  
Signature of Contracting Authority or  
Authorized Representative of Host Community

## TINC PLAN TO REMAIN COMPLIANT WITH LOCAL ZONING

Application: MPN281871

Consistent with 935 CMR 500.101(1)(a)(10), Cultivauna, LLC, doing business as TINC, will comply with all local codes, ordinances, and bylaws as adopted by the Town of Georgetown, Massachusetts and will remain in close contact with officials in the Town to ensure compliance with any changes or updates to local rules applying to their business operation.

On May 7<sup>th</sup>, 2018 at their Annual Town Meeting, the Town of Georgetown adopted a “Recreational Marijuana Bylaw” (herein “zoning bylaw”). The zoning bylaw establishes a Marijuana Business Overlay District, in which **68 Tenney Street, Georgetown, MA 01833**, is located, and the location in which TINC has an executed 5 year lease with Marston Tenney Realty to operate a marijuana product manufacturing establishment. The bylaw requires any Marijuana Business to receive a special permit to operate. The Special Permit Granting Authority (SPGA) is granted to the Planning Board. TINC received approval for their special permit to operate on August 14<sup>th</sup>, 2019. Special permits for Marijuana Businesses in Georgetown lapse after 5 years. Applications for renewal of the permit must be submitted at least 120 days prior to the expiration of the special permit.

Over the past several years in anticipation of applying for a Marijuana Product Manufacturer license with the Cannabis Control Commission (CCC), and after executing a Host Community Agreement (HCA) with the Town in December of 2018, TINC has engaged and forged excellent working relationships with the Board of Selectmen in Georgetown and other key town officials to ensure compliance with all local rules, regulations and permit requirements. TINC will continue to work with these individuals during the application process to ensure cooperation and compliance on the local and state level, and forge any new relationships with state or local officials as needed. Below is a list of departments and officials in which TINC has engaged as of the date of application with the CCC, and the general reason for engagement:

- I. **Georgetown Police:** Ongoing discussions regarding security requirements.
  - Chief Cudmore: Chief of Police
- II. **Georgetown Fire:** Ongoing discussions for fire safety plans and protocols.
  - Chief Fred Mitchell: Fire Chief
  - Brian Belfiore: Fire Prevention Officer
- III. **Georgetown Water Department:** Ongoing discussions with the water department, which resulted in the installation of a new fire hydrant on the property as well as a redundant water line installed at TINC's expense.
  - Marlene Ladderbush, Utility Director (December 2019)
- IV. **Georgetown Local Officials:** Ongoing discussions with key officials in Town Hall to keep key officials updated about TINC's progress toward licensure and ensure local compliance.
  - Board of Selectman Primary Contact: Doug Dawes, Selectman
  - Town Administrator, Mike Farrell
- V. **Georgetown Planning Department and Planning Board:** Engaged to receive Special Permit to Operate a Marijuana Business and ensure any and all additional local compliance.
  - John Cashell, Town Planner

## **TINC PLAN TO REMAIN COMPLIANT WITH LOCAL ZONING**

Application: MPN281871

- Matilda Evangelista, Robert E. Watts, Bruce Fried, Joanne Laut, Harry Lacortiglia, Planning Board Members
- VI. **Georgetown Building Inspector:** Ensuring compliance by landlord on all building related issues.
  - Les Godin, Building Inspector
- VII. **Georgetown Conservation Commission:** Partnered to ensure landlord properly restored an area of the property that was within a wetland buffer zone.
  - Steven Przyjemski, Agent for Town Conservation Commission
- VIII. **Georgetown Town Clerk:** Ongoing contact and outreach on all matters.
  - Kerri Ann McManus, Town Clerk
- IX. **Georgetown Municipal Light Department:** Coordinating anticipated power needs
  - David Schofield, Manager
- X. **Georgetown Board of Health:** Ongoing collaboration to ensure compliance, and per the Board's request, added storage tanks on the property.
  - Deb Rogers, Board of Health Agent
- XI. **MA State Code & Compliance:** Engaged to ensure compliance with respect to the building structure size as well as the stated use for the building.
  - Kristen E. Nich, P.E.: Fire Protection Engineer, Division of Fire Safety
  - Matthew Murray, Supervisor, Code Compliance & Enforcement Unit



July 13, 2021

Cannabis Control Commission  
Union Station, 2 Worcester Square  
Worcester, MA 01604

RE: License Renewal Application #MPR243646 – Municipal Cost Determination, No  
Response from Host Community

Dear Licensing Department:

I write this letter to the Licensing Department at the Cannabis Control Commission (CCC) regarding Cultivauna, LLC (dba LEVIA)'s outreach to the Town of Georgetown, MA regarding costs incurred to the Host Community reasonably related to the operation of our marijuana establishment located at 68 Tenney Street in Georgetown.

A letter was emailed to the Host Community on July 7, 2021 requesting the above information as part of our Application for License Renewal (#MPR243646). As of the date of the submission of our License Renewal Application with the CCC, the Host Community has not responded to our request for information.

If you have any questions for the Company regarding our communication to the Town, or the lack of response to such outreach, please reach out at any time.

Sincerely yours,

Jim Moran  
Director of Compliance  
(617) 513-1552  
Jim@Levia.Buzz

## **TINC PLAN FOR POSITIVE IMPACT**

Application: MPN281871

TINC (the “Company”) is dedicated to addressing longstanding inequities in drug enforcement and plans to support those living in areas of disproportionate impact, as defined by the Commission. In doing so, the Company will seek to positively impact individuals from the following two groups: (1) past or present residents of areas of disproportionate impact as defined by the Cannabis Control Commission and/or; (ii) Commission designated Economic Empowerment Priority Applicants, or those that would otherwise qualify as such applicants, and Social Equity Program participants.

TINC will implement the following goals, programs and forms of measurement as our Plan for Positive Impact:

### **Goals:**

1. Annually host a minimum of two (2) educational, networking and/or job fair events in areas of disproportionate impact as defined by the Commission. In the first year, identify, recruit, and hire at least 10% of employees from the Economic Empowerment Program (EEP) and/or the Social Equity Program (SEP)
2. Enable access to the cannabis industry by mentoring at least (2) cannabis related startup company, and provide access to manufacturing space, so long as doing so is in compliance with Commission regulations.
3. Implement a charitable giving program to support charities in areas of disproportionate impact by matching employee donations up to \$500, donating \$10,000 annually, and reporting annually on total contributions.

### **Programs:**

#### **1. Educational, Networking & Job Fair Events – Amherst, MA & Haverhill, MA**

TINC shall host at least two (2) educational, networking, and/or job fair events per calendar year that focus on educating the community of Amherst, MA or Haverhill, MA on safe cannabis consumption as well as job opportunities in the industry. Notifications of the events will be published in the Amherst Gazette or the Haverhill Gazette weekly for a minimum of 4 weeks leading up to the event. The surrounding towns of disproportionate impact (Holyoke, Greenfield, Springfield) will also have advertisements published in the Holyoke Gazette & Enterprise and the Daily Hampshire Gazette. The Company will also use the CCC’s portal for individuals in the Social Equity Program and for those certified as Economic Empowerment Priority Applicants.

The Company has been working with Amherst BID (Amherst Business Improvement District), a nonprofit economic development organization comprised of local property owners dedicated to providing programs and services that serve the town’s residents and business. TINC and Amherst BID have already begun identifying a variety of venues to host the educational and networking events (e.g. Amherst Works, a shared workspace located downtown). The Company will use the participation in these events as well as utilizing the CCC’s database of approved EE applicants as a way to identify individuals in the Social Equity and/or Economic Empowerment Program and recruit them for employment at TINC in an effort to reach our hiring goal of 10% its staff to be participants in the SEP or EEP.

In order to reach the largest audience and ensure the efficacy of these events, at least four weeks in advance of a scheduled event, the Company will provide notice of, either by a local newspaper ad (e.g. Amherst Gazette, Haverhill Gazette, or the Daily Hampshire Gazette covering the Pioneer Valley) and/or via cannabis related newsletters or websites, the time, location and topic for the meeting. TINC will ensure that any advertising for such events do not violate any prohibited marketing or advertising practice per the Commission’s regulations, specifically 935 CMR 500.105(4)(b). The Company will post any notice of these events in areas of

## **TINC PLAN FOR POSITIVE IMPACT**

Application: MPN281871

disproportionate near Amherst, such as Springfield, Holyoke, and Greenfield. TINC will also make reasonable efforts to ensure that selected locations for these events are accessible to the disabled, and are easy to access by car and public transportation.

### **2. Enabling Access to the Cannabis Industry through Strategic Partnership and Mentoring**

The Company is committed to ensuring that individuals and businesses located in areas of disproportionate impact, as identified by the Commission, and those that have been injured as a result of the war on drugs, gain access to education in any number of fields translatable to the cannabis space. TINC believes there will be a need for workers across a multitude of sectors including marketing, engineering, food science, chemistry, accounting, and legal, among others, and is committed to sharing their experience launching a cannabis business with individuals and businesses that are starting out.

The Company shall provide mentoring opportunities for individuals and start-up companies to generate awareness of new opportunities in the cannabis industry. The Company will engage with at least 2 startup company's annually, preferably those in the cannabis space or those with owners or employees interested in entering the industry, to offer mentor services and access to manufacturing space (if needed). Over the past two years, in an effort to effectuate this plan, TINC has participated as a mentor in the Collegiate Summer Venture Program in partnership with UMass' Berthiaume Center for Entrepreneurship and Valley Venture Mentors (VVM). This 10-week accelerator program is designed to help startups improve their minimum viable product and accelerate their businesses. TINC's work as a mentor in this program to date have included education and guidance on bringing new products and services to market, identifying target markets, best manufacturing practices, regulatory guidance, pricing strategies, marketing best practices, panel discussions, and judging pitch competitions with cash prizes. The Company will continue to participate as a mentor through the program after being licensed by the Commission.

### **3. Charitable Giving Program**

As an extension of the partnership with Amherst BID, a 501(c)(3) located in Amherst, MA, the Company has committed to donating \$10,000 annually to the Downtown Amherst Foundation, a 501(c)(3) created to support the greater Amherst community and the small businesses located downtown during this global financial crisis. Gabrielle Gould, Executive Director of both Amherst BID and the Downtown Amherst Foundation has provided a letter of support stating that they will accept charitable donations from the Company.

#### **Measurement Metrics:**

In order to maintain accountability for the above Positive Impact Plan, and to assess whether TINC's goals to reach individuals in the groups targeted by the Plan that wish to learn more about the cannabis industry, the Company shall do the following:

- 1) GOAL 1: Annually host a minimum of two (2) educational and/or networking events in areas of disproportionate impact as defined by the Commission.
  - a. Document and store records, according to CCC record keeping procedures, on each hosted event, including:
    - i. Where and at what frequency the events were publicly posted;
    - ii. The location of the event and the number of attendees,
  - b. Bi-annually, review the events hosted and to the extent feasible document:
    - i. Whether the attendees came from areas of disproportionate impact or plan to be social equity program participants or have been certified as Economic Empowerment Priority Applicants;

## **TINC PLAN FOR POSITIVE IMPACT**

Application: MPN281871

- ii. The subject matter of the event and summary of next steps (if any)
  - iii. According to CCC record keeping rules, store information on the bi-annual reviews and share with the CCC upon request.
- 2) GOAL 2: Enable access to the cannabis industry through mentoring services and access to manufacturing space, so long as doing so is in compliance with Commission regulations.
  - a. Document and store records, according to CCC record keeping procedures on:
    - i. The names of at least 2 startup companies that TINC worked with as part of the program;
    - ii. The name of each TINC employee or owner participating as a mentor in the program; and
    - iii. The program dates and times, and any other additional information that verifies TINC's participation in the program.
    - iv. TINC's participation in the Valley Venture Mentors Program through UMass or a comparable program.
- 3) GOAL 3: Implement a charitable giving program to support charities in areas of disproportionate impact and report annually on total contributions.
  - a. Document and store records, according to CCC record keeping procedures on the following:
    - i. The names of each charity and the amount of each donation made by TINC to to charities or community groups in areas of disproportionate impact including \$10,000 to the Downtown Amherst Foundation ; and
    - ii. Count the number of all eligible matched donations under the Employee Match Program, including the names of each charity and the amount donated by the employee and matched by the Company.

In order to track the success of the programs within TINC's Positive Impact Plan, TINC will bi-annually review the Company's goals, whether the programs within the Positive Impact Plan are working to meet the Company's goals, and whether adjustments or additions to the Plan are warranted. TINC will document the Positive Impact Plan bi-annual review, including whether measurable goals have been met, and will store such records alongside other personnel records according to 935 CMR 500.105(9). TINC acknowledges the progress and success of its Positive Impact Plan must be documented upon license renewal (one year from the issuance of a provisional license) and each year thereafter, and will share with the CCC all records pertaining to the Plan at licensure renewal or at any other time upon request.



July 10, 2020

**Board of Directors**

Barry Roberts,  
President  
  
Jerry Jolly,  
Vice President  
  
Sharon Povinelli,  
Treasurer  
  
Tony Maroulis,  
Secretary  
  
Jeremy Austin  
  
Andrew Bohne  
  
Paul Bockelman  
  
Jim Brassord  
  
Ewen Chen  
  
Jerry Jones  
  
Cinda Jones  
  
David Mazon  
  
Sharon Sharry

Gabrielle Gould,  
Executive Director

Ann Tweedy  
Marketing Director

Cannabis Control Commission  
C/O Licensing Department  
Union Station  
2 Market Square  
Worcester, MA 01604

RE: Letter of Support for TINC's Efforts to Address Areas of Disproportionate Impact

To Whom It May Concern:

My name is Gabrielle Gould, Executive Director of the Amherst Downtown Business Improvement District (Amherst BID). Amherst BID is a nonprofit economic development organization comprised of local property owners dedicated to providing programs and services that serve the town's residents and businesses. Our mission is to invest resources in improving downtown Amherst's vibrancy, sustainability and economic health.

As you know, Amherst is considered an area of disproportionate impact and a town that has wholeheartedly embraced the emergence of the cannabis industry. Amherst BID is working on creative ways to help promote access to the many types of cannabis establishments permitted under law, and to help the community access educational resources on the industry itself. I write you today to inform you of my conversations with TINC as it relates to these goals, and how TINC may help us reach them by providing free educational services to local residents and businesses in our shared, community work space.

To date, my conversations with the Eric Rogers, one of the co-founders of TINC, have been on how we can best partner to provide cannabis consumption education to those in the community. We have also discussed how Amherst may get involved in the new social consumption aspect of the industry. We chose to engage with TINC on these based on their expertise on proper cannabis consumption and focus on low-dose cannabis beverages.

We are excited about the opportunity to partner with TINC to bring educational resources to the area. Since many in our community have been harmed disproportionately relative to cannabis enforcement over the years, we believe it is in the Town of Amherst, and Amherst

BID's, best interest to help alleviate that wrongdoing any way we can. Partnering with TINC will allow us to work together to promote the industry through free education in easily accessible community space, and work with TINC on expansion of the type of establishment's downtown Amherst may host in the coming years.

In addition to the Amherst Business Improvement District I am the founder and Executive Director of the Downtown Amherst Foundation a new Foundation that is creating several "funds" for our greater community based mainly in the downtown area. This year we have raised over \$320,000 for a Microgrant Relief Fund for our small businesses during this financial global crisis. The foundation is a 501c3 and we have no concerns or issues receiving a substantial donation from TINC as we, again, see this company as a safe, mature and clearly generous and concerned part of the community.

I have enjoyed the many conversations with TINC and can undoubtedly support that they are a company dedicated to serving disparate populations and those interested in the new legal marketplace. Please feel free to reach out to me at any time, and I look forward to forming a long-lasting business partnership with TINC once they are fully licensed by the Commission.

Sincerely yours,

Sincerely,

A handwritten signature in cursive script, appearing to read 'G. Gould'.

Gabrielle Gould  
Executive Director, Amherst Downtown BID  
Amherst Downtown BID  
508.901.1180  
**SUPPORT LOCAL. EAT LOCAL. SHOP LOCAL. STAY LOCAL. DOWNTOWN AMHERST.**

**The Commonwealth of Massachusetts**

TOWN OF GEORGETOWN

June 8 2020

In conformity with the provisions of Chapter one hundred and ten, Section five of the General Laws, as amended, the undersigned hereby declare(s) that a business under the title

of TINC

Address: 68 Tenney Street, Georgetown MA 01833

by the following named persons.

FULL NAME

RESIDENCE

KATHLYN BROSNAN

11 Ferretor St. Newbury MA

Kristin Rogers

26 Denchows Way. Middleton MA

"The signatories below acknowledge this Certificate is not proof of conformity to Zoning by-laws or Board of Health regulations. It is the responsibility of the applicant to contact the Building Inspector and Health Agent in order to comply with Town by-laws, rules and regulations."

Signed

Kay. Brosnan

Signature

Signature

Kristin Rogers

Signature

E. Rogers

Signature

**The Commonwealth of Massachusetts**

Essex ss.

June 11 2020

Personally appeared before me the above-named

Kathlyn Brosnan, Kristin Rogers, Eric Rogers

and made oath that the foregoing statement is true.

A certificate issued in accordance with this section shall be in force and effect for four years from the date of issue and shall be renewed each four years thereafter so long as such business shall be conducted and shall lapse and be void unless renewed.

Expiration Date June 11, 2024

Kevin A. McMan

Town Clerk

Title





## CERTIFICATE OF GOOD STANDING AND/OR TAX COMPLIANCE



CULTIVAUNA LLC  
26 DONOVANS WAY  
MIDDLETON MA 01949-1900

### *Why did I receive this notice?*

The Commissioner of Revenue certifies that, as of the date of this certificate, CULTIVAUNA LLC is in compliance with its tax obligations under Chapter 62C of the Massachusetts General Laws.

This certificate doesn't certify that the taxpayer is compliant in taxes such as unemployment insurance administered by agencies other than the Department of Revenue, or taxes under any other provisions of law.

**This is not a waiver of lien issued under Chapter 62C, section 52 of the Massachusetts General Laws.**

### *What if I have questions?*

If you have questions, call us at (617) 887-6400 or toll-free in Massachusetts at (800) 392-6089, Monday through Friday, 8:30 a.m. to 4:30 p.m..

### *Visit us online!*

Visit [mass.gov/dor](http://mass.gov/dor) to learn more about Massachusetts tax laws and DOR policies and procedures, including your Taxpayer Bill of Rights, and MassTaxConnect for easy access to your account:

- Review or update your account
- Contact us using e-message
- Sign up for e-billing to save paper
- Make payments or set up autopay

Edward W. Coyle, Jr., Chief  
Collections Bureau



William Francis Galvin  
Secretary of the  
Commonwealth

*The Commonwealth of Massachusetts*  
*Secretary of the Commonwealth*  
*State House, Boston, Massachusetts 02133*

June 15, 2020

TO WHOM IT MAY CONCERN:

I hereby certify that a certificate of organization of a Limited Liability Company was filed in this office by

**CULTIVAUNA, LLC**

in accordance with the provisions of Massachusetts General Laws Chapter 156C on **February 2, 2017**.

I further certify that said Limited Liability Company has filed all annual reports due and paid all fees with respect to such reports; that said Limited Liability Company has not filed a certificate of cancellation; that there are no proceedings presently pending under the Massachusetts General Laws Chapter 156C, § 70 for said Limited Liability Company's dissolution; and that said Limited Liability Company is in good standing with this office.

I also certify that the names of all managers listed in the most recent filing are:  
**KAITLYN BROSNAN, KRISTIN ROGERS**

I further certify, the names of all persons authorized to execute documents filed with this office and listed in the most recent filing are: **KAITLYN BROSNAN, KRISTIN ROGERS, ERIC JAY ROGERS, MATTHEW PETER MELANDER**

The names of all persons authorized to act with respect to real property listed in the most recent filing are: **ERIC JAY ROGERS, MATTHEW PETER MELANDER**

In testimony of which,  
I have hereunto affixed the  
Great Seal of the Commonwealth  
on the date first above written.



*William Francis Galvin*  
Secretary of the Commonwealth

**CULTIVAUNA, LLC**

**A Massachusetts Limited Liability Company**

**AMENDED AND RESTATED LIMITED LIABILITY COMPANY AGREEMENT**

**Dated as of May 1, 2020**

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THE UNITS AND OTHER INTERESTS REPRESENTED BY THIS AMENDED AND RESTATED LIMITED LIABILITY COMPANY AGREEMENT HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED, OR UNDER ANY OTHER APPLICABLE SECURITIES LAWS. SUCH INTERESTS MAY NOT BE SOLD, ASSIGNED, PLEDGED OR OTHERWISE DISPOSED OF AT ANY TIME WITHOUT EFFECTIVE REGISTRATION UNDER SUCH ACT AND LAWS OR EXEMPTION THEREFROM, AND COMPLIANCE WITH THE OTHER RESTRICTIONS ON TRANSFERABILITY SET FORTH HEREIN.

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## CULTIVAUNA, LLC

### AMENDED AND RESTATED LIMITED LIABILITY COMPANY AGREEMENT

This Amended and Restated Limited Liability Company Agreement (this “Agreement”) of CULTIVAUNA, LLC (the “Company”), a Massachusetts limited liability company, is dated as of May 1, 2020, among the Company, the members identified on Schedule I and Schedule II annexed hereto, made a part hereof and hereby incorporated herein by reference, and the members of the Company who from time to time become party hereto by executing a counterpart signature page hereof.

#### RECITALS

WHEREAS, the Company was formed under the laws of the Commonwealth of Massachusetts by filing a Certificate of Organization with the Secretary of the Commonwealth of Massachusetts on February 2, 2017;

WHEREAS, the initial limited liability company agreement of the Company was entered into as of as of March 1, 2017 (the “Original Agreement”); and

WHEREAS, the parties desire to enter into this Agreement to amend and restate in its entirety the Original Agreement as subsequently amended and to provide for certain agreements governing the business and affairs of the Company as set forth herein.

NOW, THEREFORE, in consideration of the mutual promises made herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, hereby agree as follows:

#### AGREEMENT

##### **1. DEFINITIONS.**

1.1 Definitions. Capitalized terms used herein shall have the following meanings:

“Act” means the Massachusetts Limited Liability Company Act, as set forth in Chapter 156C of the Massachusetts General Laws, as in effect at the time of the initial filing of the Certificate with the Secretary of the Commonwealth of Massachusetts, and as thereafter amended from time to time.

“Adjusted Capital Account Deficit” means, with respect to any Capital Account as of the end of any Fiscal Year, the amount by which the balance in such Capital Account is less than zero. For this purpose, such Person’s Capital Account balance will be: reduced for any items described in Regulations Sections 1.704-1(b)(2)(ii)(d)(4), (5), and (6), and increased for any amount such Person is obligated to contribute or is treated as being obligated to contribute to the Company pursuant to Regulations Sections 1.704-1(b)(2)(ii)(c) (relating to partner liabilities to a partnership) or 1.704-2(g)(1) and 1.704-2(i) (relating to minimum gain). This definition of Adjusted Capital Account Deficit shall be interpreted consistently with the provisions of Regulations Section 1.704-1(b)(2)(ii)(d) and in the event of any inconsistency therewith, Regulations Section 1.704-1(b)(2)(ii)(d) will control.

“Affiliate” means with respect to any specified Person, (a) any Person that directly or through one or more intermediaries controls or is controlled by or is under common control with the specified Person or (b) any Person who is a general partner, member, managing director, manager, officer, director or principal of the specified Person. As used in this definition, the term “control” means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through ownership of voting securities, by contract or otherwise.

“Agreement” is defined in the preamble.

“Applicable Tax Rate” means 45% or such other rate determined by the Board of Managers to be the sum of the highest marginal federal, state, and local income or similar tax rate applicable to any Unit Holder (or its partners or members or indirect partners or members, as applicable) residing in the United States based on the information available to the Board of Managers (taking into account the character of the Company’s income and the deductibility of state and local taxes for federal income tax purposes).

“Asset Value” of any property of the Company means its adjusted basis for federal income tax purposes unless:

- (a) the property was accepted by the Company as a contribution to capital at a value different from its adjusted basis, in which event the initial Asset Value for such property means the gross Fair Value of the property agreed to by the Board of Managers and the contributing Unit Holder; or
- (b) the property of the Company is revalued in accordance with Section 4.2, in which event the Asset Values for such property will equal the Fair Values established pursuant to such revaluation.

As of any date, references to the “then prevailing Asset Value” of any property means the Asset Value last determined for such property less the depreciation, amortization and cost recovery deductions taken into account in computing Net Profit or Net Loss in fiscal periods (or portions thereof) subsequent to such prior determination date. This definition of Asset Value is intended to mean the same as “book value” as determined in accordance with Code Section 704(b) and Regulations Section 1.704-1(b)(2)(iv)(g) and will be interpreted consistent with this intent.

“Assignee” is defined in Section 11.1(c).

“Assignor” is defined in Section 11.1(b).

“Board Member” is defined in Section 7.2.

“Board of Managers” means the board of managers elected and determined as provided in Section 7.1.

“Call Option” is defined in Section 3.7.

“Capital Account” is defined in Section 4.1.

“Capital Contribution” means with respect to any Unit Holder, the sum of (a) the amount of money plus (b) the Fair Value of any other property (net of liabilities assumed or to which the property is subject) contributed (or deemed contributed) to the Company with respect to the Interest held by such Unit Holder pursuant to this Agreement.

“Cause” means with respect to any Unit Holder that is employed by or providing consulting services to the Company or its Subsidiaries any of the following: (a) the commission by such Unit Holder of a felony (or a crime involving moral turpitude); (b) theft, conversion, embezzlement or misappropriation by such Unit Holder of funds or other assets of the Company or any of its Affiliates or any other act of fraud or material dishonesty with respect to the Company or any of its Affiliates (including acceptance of any bribes or kickbacks or other acts of self-dealing); (c) intentional, grossly negligent or unlawful misconduct by such Unit Holder which causes harm to the Company or its Subsidiaries or exposes the Company or its Subsidiaries to a substantial risk of harm; (d) the violation by such Unit Holder of any law regarding employment discrimination or sexual harassment; (e) the failure by such Unit Holder to comply with any material policy generally applicable to employees of the Company or its Subsidiaries, which failure is not cured within five (5) days after notice to such Unit Holder; (f) the failure by such Unit Holder to follow the reasonable directives of any supervisor or the Board of Managers, which failure is not cured within five (5) days after notice to such Unit Holder; (g) the unauthorized dissemination by such Unit Holder of Confidential Information; (h) any material misrepresentation or materially misleading omission in any resume or other information regarding such Unit Holder (including such Unit Holder’s work experience, academic credentials, professional affiliations or absence of criminal record) provided by or on behalf of such Unit Holder when applying for employment with the Company or its Subsidiaries; or (i) any breach by such Unit Holder of any written agreement between such Unit Holder and the Company or any of its Subsidiaries that is not cured within five (5) days after notice to such Unit Holder, provided that, notwithstanding the foregoing, in the event that such Unit Holder is party to an employment agreement with the Company or any of its Subsidiaries and such agreement contains a definition of “Cause”, then such definition will apply for purposes of this Agreement in lieu of the foregoing.

“Certificate” means the Certificate of Organization of the Company filed with the Secretary of the Commonwealth of Massachusetts on February 2, 2017, as the same may be amended from time to time.

“Class” when used with reference to a Unit means the class of Units of which such Unit is a part.

“Class A Unit Holder” means a Person in regard to such Person’s particular Interest in Class A Units.

“Class A Units” is defined in Section 3.2(a).

“Class P Unit Distribution Threshold” is defined in Section 3.2(c)(iii).

“Class P Unit Holder” means a Person in regard to such Person’s particular Interest in Class P Units.

“Class P Units” is defined in Section 3.2(b).

“Code” means the Internal Revenue Code of 1986, as amended.

“Confidential Information” is defined in Section 9.5.

“Company” is defined in the preamble.

“Company Income Amount” means, for a specified period, an amount (which will not be less than zero) equal to the net taxable income of the Company for such period, reduced by any net taxable loss of the Company for any prior period not previously taken into account for purposes of determining the Company Income Amount to the extent such loss would be available under the Code (or any applicable corresponding state or local tax law) to offset income of the Unit Holders (or, as appropriate, the direct or indirect partners or members of the Unit Holders) determined as if income and loss from the Company were the only income and loss of the Unit Holders (or, as appropriate, the direct or indirect partners or members of the Unit Holders) in such period and all prior periods.

“Distribution” means cash or property (valued at its Fair Value and net of liabilities assumed or to which the property is subject) distributed by the Company to a Unit Holder in respect of the Unit Holder’s Interest whether by liquidating distribution, dividend or otherwise and does not include advisory fees, compensation or expense reimbursements paid to a holder of Units or their Affiliates or any redemption, repurchase, recapitalization or exchange or distribution of securities of the Company, any subdivision (by Unit split or otherwise) or any combination (by reverse Unit split or otherwise) of any outstanding Units.

“Drag Along Sale” is defined in Section 12.2.

“Drag Along Sale Percentage” is defined in Section 12.2.

“Drag Along Seller” is defined in Section 12.2(a).

“Employee Unit Holder” means any Unit Holder who is an employee, consultant or service provider of the Company or any of its Subsidiaries, other than a Founder.

“Excluded Unit Holder” means any Unit Holder (a) who is not an “accredited investor” (within the meaning of Rule 501(a) promulgated by the Securities and Exchange Commission), (b) whose Participation Portion is less than \$10,000 of the Subject Securities, (c) who is an employee, consultant or service provider of the Company or any of its Subsidiaries, if such Unit Holder is in breach of any noncompetition, nonsolicitation, confidentiality or similar restrictive provision to which such Unit Holder is bound pursuant to any employment agreement or other agreement between such Unit Holder and the Company or any of its Subsidiaries, or (d) who is a Former Unit Holder.

“Fair Value” means:

- (a) as applied to any asset constituting cash or cash equivalents, the amount of such cash or cash equivalents;

- (b) as applied to any asset constituting publicly traded securities that may be immediately sold in the public markets without any restrictions or limitations, the average, over a period of 21 days consisting of the date of valuation and the 20 consecutive business days prior to that date, of the average of the closing prices of the sales of such securities on the primary securities exchange on which such securities may at that time be listed, or, if there have been no sales on such exchange on any day, the average of the highest bid and lowest asked prices on such exchange at the end of such day, or, if on any day such securities are not so listed, the average of the representative bid and asked prices quoted in the NASDAQ System as of 4:00 p.m., New York time, or, if on any day such securities are not quoted in the NASDAQ System, the average of the highest bid and lowest asked prices on such day in the domestic over the counter market as reported by the National Quotation Bureau Incorporated, or any similar successor organization;
- (c) as applied to any assets other than Units, cash, cash equivalents, or publicly traded securities that may be immediately sold in the public markets without any restrictions or limitations, the fair value of such assets, as determined by the Board of Managers, which will take into account any factors that it deems relevant; and
- (d) as applied to any Unit, the fair value of such Unit, as determined by the Board of Managers and which will be calculated as the amount of Distributions which would be made in respect of such Unit upon a hypothetical liquidation of the Company as of the date of determination in accordance with Section 14.3.

“Fiscal Year” means the fiscal year of the Company, which will be the calendar year, or such other fiscal year as determined by the Board of Managers, in each case only if such year is permitted by the Code as the taxable year of the Company.

“Founder” means each of Kristin Rogers and Kaitlyn Brosnan.

“Founder’s Threshold Date” means, with respect to any Founder, the first date following the date of this Agreement on which such Founder holds less than 25% of the total outstanding Class A Units.

“Former Unit Holder” is any Unit Holder other than a Founder whose employment with the Company or any of its Subsidiaries, if applicable, has been terminated.

“Indemnified Persons” is defined in Section 15.2.

“Interest” means, with respect to any Person as of any time, such Person’s limited liability company interest in the Company, which includes the number of Units such Unit Holder holds and such Person’s Capital Account balance.

“Issuance” is defined in Section 13.1.

“Liabilities” means all liabilities of the Company which in accordance with generally accepted accounting principles should be carried as liabilities on the balance sheet of the Company.

“Majority” is defined in Section 12.2.

“Member of the Immediate Family” means, with respect to any Member who is an individual, each parent, spouse or child (including those adopted) of such individual and each custodian or guardian of any property of one or more of such Persons in the capacity as such custodian or guardian.

“Members” means the Persons listed as Members on Schedule I and Schedule II, any other Person that both acquires an Interest in the Company and is admitted to the Company as a Member, in each case so long as such Person continues to hold any Units and is not a Former Unit Holder.

“Net Profit” and “Net Loss” are defined in Section 5.5(a).

“Notice” is defined in Section 3.2(c)(i).

“Original Agreement” is defined in the recitals.

“Participating Seller” is defined in Section 12.3(a).

“Participating Buyer” is defined in Section 13.3.

“Participation Commitment” is defined in Section 13.3.

“Participation Notice” is defined in Section 13.2.

“Participation Portion” is defined in Section 13.2(a).

“Per Share Offering Price” is defined in Section 19.1(a).

“Permitted Transferee” is defined in Section 11.2.

“Person” means an individual, partnership, joint venture, association, corporation, trust, estate, limited liability company, limited partnership, limited liability partnership, unincorporated entity of any kind, governmental entity, or any other legal entity.

“Pre-Offering Company Value” is defined in Section 19.1(a).

“Prime Rate” means the most recently published prime interest rate in the Wall Street Journal.

“Proposed Unitholder Transfer” means any assignment, sale, offer to sell, pledge, mortgage, hypothecation, encumbrance, disposition of or any other like transfer or encumbering of any Units (or any interest therein) proposed by any of the Unit Holders.

“Proposed Transfer Notice” means written notice from a Unit Holder setting forth the terms and conditions of a Proposed Unitholder Transfer.

“Prospective Buyer” is defined in Section 12.1.

“Prospective Subscriber” is defined in Section 13.2(a).

“Public Offering” means an underwritten public offering of shares of the Company’s equity securities pursuant to an effective registration statement under the Securities Act.

“Right of First Refusal” means the right, but not an obligation, of the Company, or its permitted transferees or assigns, to purchase some or all of the Units owned by a Unit Holder with a Proposed Unitholder Transfer, on the terms and conditions specified in the Proposed Transfer Notice.

“Regulations” means the final or temporary regulations issued by the United States Department of Treasury pursuant to its authority under the Code, and any successor regulations.

“Regulatory Allocations” is defined in Section 5.6(g).

“Representative” means, with respect to any Person, any director, officer, employee, agent, consultant, advisor, or other representative of such Person, including legal counsel, accountants, and financial advisors.

“Repurchase Units” is defined in Section 3.7.

“Required Interest” means a majority of the Class A Units.

“Restrictive Covenant Agreement” means the restrictive covenant agreement executed by a Class P Unit Holder as a condition to receiving any Class P Units.

“Revenue Procedure” is defined in Section 3.2(c)(i).

“Sale of the Company” means any of the following: (a) a merger or consolidation of the Company into or with a third party, or a sale, exchange, conveyance or other disposition of Units to a third party, in a single transaction or a series of related transactions, as a result of which the equity holders of the Company immediately prior to such merger, consolidation, sale, exchange, conveyance or other disposition (determined at the time of the first of such series of transactions) beneficially own less than a majority (determined by reference to voting power) of the Company’s or any successor entity’s issued and outstanding equity securities immediately after such merger, consolidation, sale, exchange, conveyance or other disposition or series of such transactions (provided that a Public Offering shall not be a Company Sale); or (b) a single transaction or series of related transactions pursuant to which a third party acquires all or substantially all of the Company’s assets (determined on a consolidated basis, if applicable, and including through the purchase of equity securities of one (1) or more Subsidiaries of the Company, if applicable).

“Securities Act” means the Securities Act of 1933 and applicable rules and regulations thereunder.

“Securities and Exchange Commission” means the U.S. Securities and Exchange Commission and any successor governmental agency or regulatory body.

“Subject Securities” is defined in Section 13.1.

“Subsidiary” means, with respect to any Person, any corporation, limited liability company, partnership, association or business entity of which (i) if a corporation, a majority of the total voting power of shares of stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof is at the time owned or controlled, directly or indirectly, by that Person or one or more of the other Subsidiaries of that Person or a combination thereof, or (ii) if a limited liability company, partnership, association or other business entity (other than a corporation), a majority of partnership or other similar ownership interest thereof is at the time owned or controlled, directly or indirectly, by that Person or one or more Subsidiaries of that Person or a combination thereof. For purposes hereof, a Person or Persons will be deemed to have a majority ownership interest in a limited liability company, partnership, association or other business entity (other than a corporation) if such Person or Persons will be allocated a majority of limited liability company, partnership, association or other business entity gains or losses or will be or control any managing director or general partner of such limited liability company, partnership, association or other business entity. For purposes hereof, as of the date of determination, references to a “Subsidiary” of any Person will be given effect only for each such entity that is a subsidiary of such Person as of the date of such determination, and, unless otherwise indicated, the term “Subsidiary” refers to a Subsidiary of the Company.

“Tag Along Holder” is defined in Section 12.1(a).

“Tag Along Notice” is defined in Section 12.1(a).

“Tag Along Offer” is defined in Section 12.1(b).

“Tag Along Seller” is defined in Section 12.1(b).

“Tag Along Transfer” is defined in Section 12.1.

“Tag Along Transfer Percentage” is defined in Section 12.1(a)(i).

“Tax Distribution” is defined in Section 5.1(a).

“Tax Matters Representative” is defined in Section 10.1.

“Transfer” means any direct or indirect sale, redemption, assignment, pledge, encumbrance, abandonment, disposition or other transfer (either voluntarily or involuntarily, by operation of law or otherwise).

“Unit Holder” means a Member or other Person in regard to such Person’s particular Interest in Units.

“Units” means each of the Class A Units and Class P Units, and any other class of units of the Company that are a measure of a Unit Holder’s share of Net Profit and Net Loss of the Company as provided in Article 5.

“Unvested Class P Units” is defined in Section 5.1(c).

1.2 Interpretation. For purposes of this Agreement: (a) the words “include,” “includes” and “including” shall be deemed to be followed by the words “without limitation”; (b) the word “or” is not exclusive; and (c) the words “herein,” “hereof,” “hereby,” “hereto” and “hereunder” refer to this Agreement as a whole. The definitions given for any defined terms in this Agreement shall apply equally to both the singular and plural forms of the terms defined. Whenever the context may require, any pronoun shall include the corresponding masculine, feminine and neuter forms. Unless the context otherwise requires, references herein: (x) to “Articles”, “Exhibits” and “Sections” are to Articles, Exhibits and Sections of this Agreement unless explicitly indicated otherwise; (y) to an agreement, instrument or other document means such agreement, instrument or other document as amended, supplemented or modified from time to time to the extent permitted by the provisions thereof; and (z) to a statute means such statute as amended from time to time and includes any successor legislation thereto and any regulations promulgated thereunder. This Agreement shall be construed without regard to any presumption or rule requiring construction or interpretation against the party drafting an instrument or causing any instrument to be drafted. The Exhibit(s) referred to herein shall be construed with, and as an integral part of, this Agreement to the same extent as if they were set forth verbatim herein.

## **2. FORMATION AND PURPOSE.**

2.1 Formation. The Company was formed as a limited liability company in accordance with the Act by the filing of the Certificate with the Secretary of the Commonwealth of Massachusetts on as of February 2, 2017. The Original Agreement was entered into on March 1, 2017 and was subsequently amended by the Founders. This Agreement amends, restates and supersedes the Original Agreement in its entirety. The rights and liabilities of the Unit Holders will be determined pursuant to this Agreement and, to the extent required by the Act, by the Act. To the extent that the rights or obligations of any Unit Holder are different by reason of any provision of this Agreement than they would be in the absence of such provision, this Agreement will, to the extent permitted by the Act, control.

2.2 Name. The name of the Company is “CULTIVAUNA, LLC”. The business of the Company may be conducted under that name or, upon compliance with applicable laws, any other name that the Board of Managers deems appropriate. The Board of Managers will file, or will cause to be filed, any fictitious name certificates and similar filings, and any amendments thereto, that the Board of Managers considers appropriate.

2.3 Registered Office/Agent. The registered office required to be maintained by the Company in the Commonwealth of Massachusetts pursuant to the Act will initially be 26 Donovans Way, Middleton, MA 01949. The Company may, upon compliance with the applicable provisions of the Act, change its registered office or registered agent from time to time in the determination of the Board of Managers.

2.4 Principal Office. The initial principal executive office of the Company will be located at 26 Donovans Way, Middleton, MA 01949. The Board of Managers may from time to time change the location of the principal executive office of the Company to any other place within or without the Commonwealth of Massachusetts. The Board of Managers may establish and maintain such additional offices and places of business of the Company, either within or without the Commonwealth of Massachusetts, as it deems appropriate.

2.5 Term. The term of the Company commenced on the date the Certificate was filed with the Secretary of the Commonwealth of Massachusetts and shall continue in existence perpetually until the Company is dissolved in accordance with the provisions of this Agreement. The existence of the Company as a separate legal entity will continue until the cancellation of the Certificate as provided in the Act.

2.6 General Character and Purpose. Subject to the provisions of this Agreement, the general character of the business and purposes for which the Company has been formed and the powers that it may exercise, all being in furtherance, and not in limitation, of the general powers conferred upon limited liability companies by the Commonwealth of Massachusetts, are: (a) to own, manage and operate a cannabis based beverage business; (b) to carry on any lawful business whatsoever that is calculated, directly or indirectly, to promote the interests of the Company or to enhance the value of its assets; (c) to engage in such other business as may be determined by the Board of Managers; or (d) to do any and all things incidental to the accomplishment of the foregoing purposes, or incidental to the protection and benefit of the Company.

2.7 Powers. The Company will possess and may exercise all of the powers and privileges granted by the Act or by any other law together with such powers and privileges as are necessary, advisable, incidental or convenient to, or in furtherance of the conduct, promotion or attainment of the business purposes or activities of the Company.

2.8 Certificate. The filing of the Certificate is hereby ratified and confirmed and the Person filing such Certificate is hereby designated as an authorized person within the meaning of the Act to execute, deliver and file the Certificate, and said Person and such other Persons as may be designated from time to time by the Board of Managers are hereby designated as authorized persons, within the meaning of the Act, to execute, deliver and file any amendments or restatements of the Certificate or any certificate of cancellation of the Certificate and any other certificates and any amendments or restatements thereof necessary for the Company to qualify to do business in a jurisdiction in which the Company may wish to conduct business.

2.9 No State-Law Partnership. The Unit Holders intend that the Company not be a partnership (including a limited partnership) or joint venture, and that no Unit Holder be a partner or joint venturer of any other Unit Holder by virtue of this Agreement, for any purposes other than as set forth in the immediately following sentence, and neither this Agreement nor any document entered into by the Company or any Unit Holder will be construed to suggest otherwise. The Unit Holders intend that the Company be treated as a partnership for federal and, if applicable, state or local income tax purposes, and the Company and each Unit Holder will file all tax returns and will otherwise take all tax and financial reporting positions in a manner consistent with such treatment and no Unit Holder shall take any action inconsistent with such treatment.

### **3. MEMBERSHIP, CAPITAL CONTRIBUTIONS AND UNITS.**

3.1 Members. The Members of the Company are listed on Schedule I. Additional Members may be admitted as from time to time in accordance with this Agreement and in the event that an Additional Member is admitted, Schedule I will be amended and supplemented in accordance with this Agreement. The Company will maintain a current list of Unit Holders, the

total amount of Capital Contributions made by each such Unit Holder, the number and class of Units held by such Unit Holder and each Unit Holder's Capital Account balance.

3.2 Unit Holder Interests and Units. The Interests of the Unit Holders of the Company will be divided into Units. There will be multiple Classes of Units, which will initially consist of the following:

(a) *Class A Units*. Each "Class A Unit" will represent an Interest in the Company, will be designated as a Class A Unit of the Company and will be entitled to the Distributions provided for in Article 5.

(b) *Class P Units*. Each "Class P Unit" will represent an Interest in the Company, will be designated as a Class P Unit of the Company and will be entitled to the Distributions provided for in Article 5.

(c) *Issuances of Class P Units*. Any Class P Units issued hereunder to an employee, manager, director, consultant or service provider of the Company or any of its Subsidiaries shall be issued in connection with and as a part of the compensation and incentive arrangements between the Company and such employee, manager, director, consultant or service provider. The Class P Units shall be granted in exchange for the consideration set forth in the agreement or certificate pursuant to which such Class P Units were issued and the services provided or to be provided to the Company including such services as the Company may from time to time request and are intended to be "profits interests" for U.S. federal income tax purposes. The provisions of this Agreement will be interpreted in accordance with such intent. In furtherance of the foregoing:

(i) By executing this Agreement, each Unit Holder authorizes the Company, at the election of the Board of Managers, to elect to have the "Safe Harbor" described in the proposed Revenue Procedure (the "Revenue Procedure") set forth in Internal Revenue Service Notice 2005-43 (the "Notice") and Proposed Regulations Section 1.83-3(l) apply to any interest in the Company transferred to a service provider by the Company on or after the effective date of such Revenue Procedure in connection with services provided to the Company. For purposes of making such Safe Harbor election, the Tax Matters Representative is hereby designated as the "partner who has responsibility for federal income tax reporting" by the Company and, accordingly, execution of such Safe Harbor election by the Tax Matters Representative will constitute execution of a "Safe Harbor Election" in accordance with Section 3.03 of the Notice. The Company and each Unit Holder hereby agree to comply with all requirements of the Safe Harbor described in the Notice and in the Proposed Regulations Section 1.83-3(l), to the extent such requirements are imposed in the Revenue Procedure or such Proposed Regulation, including the requirement that each Unit Holder will prepare and file all federal income tax returns reporting the income tax effects of each interest in the Company issued by the Company covered by the Safe Harbor in a manner consistent with the requirements of the Revenue Procedure.

(ii) Each Unit Holder authorizes the Tax Matters Representative to amend Section 3.2(c)(i) to the extent necessary and advisable in the sole determination of the Board of Managers, to comply with the requirements of the Revenue Procedure as issued, provided that such amendment is not materially adverse to such Unit Holder (as compared with the after tax consequences that would result if the provisions of the Notice applied to all interests in the Company transferred to a service provider by the Company in connection with services provided to the Company). A Unit Holder's obligations to comply with the requirements of this Section 3.2(c) will survive such Unit Holder's ceasing to be a Unit Holder of the Company and/or the termination, dissolution, liquidation and winding up of the Company, and, for purposes of this Section 3.2(c), the Company will be treated as continuing in existence.

(iii) For purposes of any Distributions (other than Tax Distributions) under this Agreement, upon the issuance of Class P Units, the Company shall revalue the Capital Accounts of the Members in accordance with Sections 1.704-1(b)(2)(iv)(f) of the Regulations to take into account the fair market value of the Company's assets at the time of the issuance. The Class P Units shall not have value or be entitled to Distributions under this Agreement other than as set forth in Section 5.1 and Section 14.3 with respect to, and only to the extent of, the recipient Member's share of Net Profits earned after the date of issuance of such Class P Units and the recipient Member's share in respect of such Class P Units of the increase in the value of the Company over the fair market value as determined in good faith by the Board of Managers as of the date of the issuance of the Class P Units and as stated in the Member's unit grant agreement or other agreement with, or writing made available to, the Member (the "Class P Unit Distribution Threshold"). Any amounts that would have been distributed in respect of the Class P Units under Section 5.1(b) or Section 14.3 but for the Class P Unit Distribution Threshold shall instead be distributed to the other Unit Holders as if (i) such Distribution were a new Distribution pursuant to Section 5.1(b) or Section 14.3, as applicable, and (ii) such Class P Units that participate only above the applicable Class P Unit Distribution Threshold were never issued.

3.3 Member Voting. Each Class A Unit will be entitled to one vote per Unit and each Class P Unit will be non-voting, except to the extent this Agreement expressly provides otherwise. Except to the extent this Agreement expressly requires otherwise, all actions, consents and approvals required by the Members hereof will be effective if taken by the holders of the Required Interest, and any such action, consent or approval may be taken without a meeting if at least the holders of the Required Interest consent thereto in writing or by electronic communication and such writing or writings are filed with the records of the Company. Such consent will be treated for all purposes as the act of the holders of the Required Interest.

3.4 Specific Limitations. No Unit Holder will have the right or power to: (a) withdraw or reduce its Capital Contribution except as provided by the Act or in this Agreement, (b) make voluntary Capital Contributions or contribute any property to the Company other than cash, (c) bring an action for partition against the Company or any Company assets, (d) cause the dissolution

of the Company, except as set forth in this Agreement or as required by the Act, or (e) require that property other than cash be distributed upon any Distribution.

3.5 Additional Members and Units. Subject to Section 13.1, the Board of Managers may (a) create, authorize and/or issue any Units or Interests or equity or other interests in the Company (including any classes or series thereof) having the respective designations, preferences, qualifications, limitations, restrictions and rights as the Board of Managers determines and (b) admit Persons as Members in exchange for such contributions to capital (including commitments to make contributions to capital) or such other consideration (including past or future services) and on such terms and conditions (including vesting and forfeiture provisions) as the Board of Managers determines. Promptly following the issuance of Units or Interests, the Board of Managers will cause the books and records of the Company to reflect the number of Units or Interests issued, any Members or additional Members holding such Units or Interests, and in the case of Units or Interests issued other than solely in connection with the performance of services, the Capital Contribution per Unit or Interest. Upon the execution of this Agreement or a counterpart of this Agreement, together with any other documents or instruments required by the Board of Managers in connection therewith, and the making of the Capital Contribution (if any) specified to be made at such time, a Person will be admitted to the Company as a Unit Holder of the Company.

3.6 Capital Contributions. Each Unit Holder's Capital Contribution, if any, whether in cash or in-kind, and the number of Units issued to such Unit Holders will be as set forth in Schedule I or in the writing pursuant to which such Units were issued to such Unit Holder. Any in-kind Capital Contributions will be effected by a written assignment or such other documents as the Board of Managers will direct. Any Unit Holder making an in-kind Capital Contribution agrees from time to time to do such further acts and execute such further documents as the Board of Managers may direct to perfect the Company's interest in such in-kind Capital Contribution. No Unit Holder as of the date hereof will be required to make any additional Capital Contribution to the Company following the date hereof.

3.7 Call Option. Upon the termination of a Class P Unit Holder from his or her employment with the Company or any of its Subsidiaries for any reason, without thereafter continuing to be employed with the Company or a Subsidiary (a "Termination Event"), the Company will have the option in its sole discretion, but not the obligation, exercisable any time prior to the 24-month anniversary of the Termination Event, to repurchase any and all of the Class P Units held or controlled by such Class P Unit Holders, or any Permitted Transferee thereof (collectively, "Repurchase Units"), for a purchase price per Class P Unit equal to the fair market value of such shares on the date of the Termination Event, as determined pursuant to the valuation process outlined in Section 3.7(a) below. The right of the Company to purchase the Repurchase Units upon a Termination Event shall, for the purposes of this Agreement, be referred to as a "Call Option." Notwithstanding anything herein to the contrary, this Call Option shall not be applicable to (i) Unvested Class P Units upon the termination of a Class P Unit Holder from his or her employment with the Company or any of its Subsidiaries for any reason or (ii) all Class P Units in the event a Class P Unit Holder breaches a covenant under his/her employment agreement or any covenant under the Restrictive Covenant Agreement or in the event the Class P Unit Holder's employment with the Company or any Subsidiary is terminated for Cause. In the case of the foregoing clause (i), the Unvested Class P Units of such Class P Unit Holder shall be forfeited

without any further consideration. In the case of the foregoing clause (ii), all Class P Units of such Class P Unit Holder shall be forfeited without any further consideration.

(a) *Valuation Process.* The following process shall be used to determine the fair market value per Class P Unit: within thirty (30) days following the Company's receipt of notice of a Termination Event, the Board of Managers shall determine the fair market value per Class P Unit and shall deliver in writing its determination to the holder of Repurchase Shares.

(b) *Acknowledgment.* Each Class P Unit Holder acknowledges and agrees that neither the Company, nor any Person directly or indirectly affiliated with the Company (in each case whether as a director, officer, manager, employee, agent or otherwise), will have any duty or obligation to affirmatively disclose to him, her or it, and he, she or it will not have any right to be advised of, any material information regarding the Company or otherwise at any time prior to, upon, or in connection with any termination of his, her or its employment by the Company and/or its Subsidiaries upon the exercise of any Call Option in accordance with the terms hereof.

(c) *Closing.* Payment for the Class P Units following the exercise of a Call Option shall be made within ninety (90) days following the final determination of the valuation of the Repurchase Units pursuant to Section 3.7(a) (such date, the "Payment Date"). The closing of any purchase and sale of Class P Units shall take place at the principal office of the Company, or at such other time and location as the parties to such purchase may mutually determine. At the closing of any purchase and sale of Class P Units following the exercise of the Call Option, the Company shall pay for such Class P Units by certified or bank check or wire transfer of immediately available funds. Notwithstanding the foregoing, if there is an existing event of default under the Company's loan facility, if any, with its senior or subordinated lenders or if payment of the purchase price on exercise of the Call Option would result in, or give rise to any event of default under such loan facility with its senior or subordinated lenders, then in lieu of making such payment as set forth above, the Company will pay such purchase price immediately upon the first to occur of (i) all existing events of default under such agreements having been cured or waived, and (ii) thirty (30) days following the maturity of such senior and subordinated indebtedness with the latest maturity date, and interest will accrue and be payable thereon at a rate equal to the Prime Rate. At the request of the senior and/or subordinated lenders, the Class P Unit Holder and such lender(s) will sign a mutually acceptable subordination agreement, providing for, among other things, such unpaid purchase price (together with accrued and unpaid interest thereon) to be paid in accordance with this Section 3.7.

3.8 Certificates for Membership Interests. The Company may, but shall have no obligation to, issue certificates or other instruments representing or evidencing the ownership of Units by Members.

#### 4. CAPITAL ACCOUNTS.

4.1 Capital Accounts. A separate account (each, a “Capital Account”) will be established and maintained for each Unit Holder, which:

(a) will be increased by (i) the amount of any Capital Contribution by such Unit Holder to the Company and (ii) such Unit Holder’s share of the Net Profit (or items thereof) of the Company, and

(b) will be reduced by (i) the amount of any Distribution to such Unit Holder and (ii) such Unit Holder’s share of the Net Loss (or items thereof) of the Company.

In determining the amount of any liability for purposes of subclauses (a)(i) and (b)(i), Code Section 752 and any other applicable provisions of the Code and Regulations will be taken into account. It is the intention of the Unit Holders that the Capital Accounts of the Company be maintained in accordance with the provisions of Code Section 704(b) and the Regulations thereunder and that this Agreement be interpreted consistently therewith.

4.2 Revaluations of Assets and Capital Account Adjustments. Solely in the discretion of the Board of Managers, when reasonably necessary or advisable and permitted by the Regulations under Code Section 704, including potentially in connection with the issuance of additional Units in exchange for property or services, upon the redemption of the Interest of a Unit Holder or the liquidation of the Company, the then prevailing Asset Values of the Company will be adjusted to equal their respective gross Fair Value and any increase in the net equity value of the Company (Asset Values less Liabilities) will be credited to the Capital Accounts of the Unit Holders in the same manner as Net Profits are credited under Section 5.5(b) (or any decrease in the net equity value of the Company will be charged in the same manner as Net Losses are charged under Section 5.5(b)). Accordingly, as of any time Asset Values are adjusted pursuant to this Section 4.2, the Capital Accounts of Unit Holders will reflect both realized and unrealized gains and losses through such date and the net equity value of the Company as of such date.

4.3 Additional Capital Account Provisions. Except as otherwise agreed to in writing by the Company and any Unit Holder, no Unit Holder will have the right to demand a return of all or any part of such Unit Holder’s Capital Contributions. Any return of the Capital Contributions of any Unit Holder will be made solely from the assets of the Company and only in accordance with the terms of this Agreement. No interest will be paid to any Unit Holder with respect to such Unit Holder’s Capital Contributions or Capital Account. In the event that all or a portion of the Units of a Unit Holder are transferred in accordance with this Agreement, the transferee of such Units will also succeed to all or the relevant portion of the Capital Account of the transferor (based on the ratio of the number of Units held by the transferor immediately before the transfer to the number of Units transferred), and will be treated as having made any Capital Contributions, and received any Distributions, made or received with respect to such transferred Units while such Units were held by the transferor. Units held by a Unit Holder may not be transferred independently of the Interest to which the Units relate.

#### 5. DISTRIBUTIONS AND ALLOCATIONS OF PROFIT AND LOSS.

5.1 Distributions.

(a) *Tax Distributions.* To the extent the Company has available cash for Distribution by the Company under the Act and subject to any applicable agreement to which the Company or any of its Subsidiaries is a party governing the terms of indebtedness for borrowed money and subject to the retention and establishment of reserves, or payment to third parties, of such funds as the Board of Managers deems necessary in its sole discretion with respect to the reasonable business needs and obligations of the Company, the Board of Managers shall cause the Company to make, on an annual basis or more frequently, a pro rata distribution to each Unit Holder equal to such Unit Holder's Tax Distribution for each Fiscal Year. With respect to the applicable Units, the "Tax Distribution" for a Unit Holder for a Fiscal Year is the amount determined by the Board of Managers to be sufficient such that such amount, together with any other Distributions made to such Unit Holder during such Fiscal Year (other than Tax Distributions made during such year with respect to previous years), is at least equal to the Applicable Tax Rate multiplied by such Unit Holder's allocable share of any Company Income Amount for such Fiscal Year. In a single Fiscal Year, multiple Applicable Tax Rates may be required to take into account the character of the Company's income. For purposes of applying this Section 5.1(a), the Board of Managers may treat a Distribution made by the 60th day following the end of a Fiscal Year as occurring during such Fiscal Year (and not the Fiscal Year in which it is in fact made). Any Tax Distribution to a Unit Holder will be treated as an advance to such Unit Holder on distributions pursuant to Section 5.1(b) (including Section 14.3 and distributions of sale proceeds on a sale of Units, including pursuant to Article 12, or on a Sale of the Company (or a sale of a Company Subsidiary)). For the avoidance of doubt, no Tax Distributions shall be made pursuant to this Section 5.1(a) in respect of any taxable income allocated to any Unit Holder in connection with a Sale of the Company.

(b) *Distribution of Net Cash Flow.* Subject to Section 5.1(a), the Act, any applicable agreement to which the Company or any of its Subsidiaries is a party governing the terms of indebtedness for borrowed money and to the retention and establishment of reserves, or payment to third parties, of such funds as the Board of Managers deems necessary in its sole discretion with respect to the reasonable business needs and obligations of the Company, the net cash flow of the Company will be distributed to the Unit Holders at such times as may be determined by the Board of Managers from time to time (and, for the avoidance of doubt, the Board of Managers will be entitled to condition any Unit Holder's receipt of any Distribution hereunder on the compliance with such Unit Holder's obligations under this Agreement). Except as otherwise specifically provided herein, the amount of any Distributions of such net cash flow will be made to the Unit Holders in the following order of priority:

(i) First, to the Class A Holders (distributed among such Class A Unit Holders based on the proportion that the Capital Contribution that each such Class A Unit Holder made to the Company bears to the aggregate Capital Contributions of all such Class A Unit Holders' to the Company) until the cumulative amount distributed to such holders pursuant to this Section 5.1(b)(i) equals the total amount of the Capital Contributions to the Company by the Class A Unit Holders and no Distribution or any portion thereof will be made under any subsequent paragraphs

of this Section 5.1(b) below until the amounts described in this Section 5.1(b)(i) have been distributed;

(ii) Second, to the Founders (distributed among the Founders based on the proportion of Class A Units held by each Founder) until the cumulative amount distributed to the Founders pursuant to Sections 5.1(b)(i) and (ii) equals (x) the proportion that the Class A Units held by the Founders bears to the aggregate Class A Units multiplied by (y) the total amount distributed by the Company pursuant to Sections 5.1(b)(i) and (ii), and no Distribution or any portion thereof will be made under any subsequent paragraphs of this Section 5.1(b) below until the amounts described in this Section 5.1(b)(ii) have been distributed; and

(iii) Third, to all of the Unit Holders (distributed among such Unit Holders based on the proportion that each such Unit Holder's aggregate number of Units bears to the aggregate number of all such Unit Holders' Units).

(c) *Class P Unit Distributions.* Notwithstanding anything contained herein to the contrary, (i) all Distributions (other than Tax Distributions) to any holder of Class P Units with respect to Class P Units shall be subject to the Class P Unit Distribution Threshold as set forth in Section 3.2(c)(iii), and (ii) all Distributions (other than Tax Distributions) to any holder of Class P Units with respect to Class P Units that have not yet become vested pursuant to the agreement pursuant to which such Class P Units were issued ("Unvested Class P Units") that would otherwise be made in respect of any Class P Units if such Class P Units were vested Class P Units will be recorded as an "Unvested Distribution Amount" in the Company's books and records at the time of such Distribution, and at the time of a Sale of the Company (or at such earlier time as the Board of Managers elects), the Unvested Distribution Amount in respect of any Class P Unit (or portion thereof) that vested following such prior Distribution will be distributed by the Company to the holder of such Class P Unit upon the consummation of such Sale of the Company; provided that, if such holder ceases to be employed by the Company or any Subsidiary at the time of a Sale of the Company, then any amounts that have not been distributed with respect to such Unvested Class P Units will be Distributed to all other Unit Holders as if such Distribution were a new Distribution pursuant to Section 5.1(b) (and the Capital Accounts of the Unit Holders will be adjusted in accordance with Article 4); provided further that, it is acknowledged that in the event that there are no subsequent Distributions, then (i) any amounts that have not been distributed with respect to such Unvested Class P Units will be forfeited; and (ii) (A) a Class P Unit will be issued with a Capital Account that equals the Capital Contribution made in association with such Class P Unit, if any, with the intent that the holder of such Class P Unit will not recognize income (or a taxable Capital Account shift) as a result of receiving such Class P Unit, and (B) consistent with the foregoing, Distributions (other than Tax Distributions) that would have been made will not be made on a Class P Unit under this Agreement until aggregate Distributions equal to the sum of (X) the net equity value of the Company (i.e., Company asset values less Company liabilities), which will be valued consistently with the valuation approach in Section 4.2, immediately prior to the issuance of such Class P Unit have been made upon previously issued Units and (Y) Distributions equal to the Capital Contributions made after the Unit in question was issued have been made, unless the Board of Managers decides

otherwise at the time such Class P Unit is issued. The amount of any Distribution that would have been distributed to a holder of a Class P Unit but for the immediately preceding sentence will be distributed to the other holders of Units (subject, in the case of other Class P Units, to this Section 5.1(c)) in accordance with the other provisions of this Agreement.

(d) *Erroneous Distributions.* If the Company has, pursuant to any clear and manifest accounting or similar error, paid any Unit Holder an amount in excess of the amount to which it is entitled pursuant to this Article 5, such Unit Holder will reimburse the Company to the extent of such excess, without interest, within 30 days after demand by the Company.

5.2 No Violation. Notwithstanding any provision to the contrary contained in this Agreement, the Company will not make a Distribution to any Unit Holder on account of such Unit Holder's Interest in the Company if such Distribution would violate the Act or other applicable law.

5.3 Withholding; Information; Tax Indemnity.

(a) All amounts withheld or required to be paid by the Company pursuant to the Code or any federal, state, local or non-U.S. tax law with respect to any payment, distribution, ownership by or allocation to a Unit Holder, or which the Company is otherwise obligated to pay to any governmental agency because of the status of a Unit Holder of the Company (including any interest, penalties and expenses associated with such payments), will, to the extent so withheld and/or paid over to such governmental agency, be treated as amounts paid to such Unit Holder for all purposes of this Agreement. The Board of Managers is authorized to withhold from Distributions to Unit Holders, or to pay with respect to allocations to Unit Holders, and in each case to pay over to the appropriate federal, state, local or non-U.S. government any amounts required to be so withheld or paid. The Board of Managers will allocate any such amounts to the Unit Holders in respect of whose Distribution or allocation the tax was withheld or paid and will treat such amounts as actually distributed to such Unit Holders. Each Unit Holder further agrees to indemnify the Company in full for any amounts paid pursuant to this Section 5.3(a) (including any interest, penalties and expenses associated with such payments) with respect to such Unit Holder to the extent not otherwise applied to reduce any concurrent Distribution to which such Unit Holder would otherwise be entitled. The Board of Managers may offset future Distributions to which a Unit Holder is otherwise entitled under this Agreement against such Person's obligation to indemnify the Company under this Section 5.3(a), and each Unit Holder will promptly upon notification of an obligation to indemnify the Company pursuant to this Section 5.3(a) make a cash payment to the Company equal to the full amount to be indemnified (and the amount paid will be added to such Unit Holder's Capital Account but will not be treated as a Capital Contribution) with interest to accrue on any portion of such cash payment not paid in full when requested, calculated at a rate equal to 10% per annum, compounded as of the last day of each year (but not in excess of the highest rate per annum permitted by law).

(b) Each Unit Holder will provide the Company with any information, representations, certificates or forms relating to such Unit Holder (or its direct or indirect

owners or account holders) that are requested from time to time by the Board of Managers and that the Board of Managers determines in its reasonable discretion are necessary or appropriate in order for any entity (including (i) the Company, (ii) any entity in which the Company holds (directly or indirectly) an interest (whether in the form of debt or equity) and (iii) any member of any “expanded affiliated group” (as defined in Code Section 1471(e)(2)) of which any Person described in clause (i) or (ii) is a member to (A) enter into, maintain or comply with the agreement contemplated by Code Section 1471(b), (B) satisfy any requirement imposed under Code Sections 1471 through 1474 in order to avoid any withholding required under Code Sections 1471 through 1474 (including any withholding upon any payments to such Unit Holder under this Agreement), (C) comply with any reporting or withholding requirements under Code Sections 1471 through 1474 or (D) comply with any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement entered into in connection with the implementation of Code Sections 1471 through 1474. In addition, each Unit Holder will take such actions as the Board of Managers may reasonably request in connection with the foregoing. In the event that any Unit Holder fails to provide any of the information, representations, certificates or forms (or undertake any of the actions) required under this Section 5.3(b), the Board of Managers will have full authority to take any steps as the Board of Managers determines in its reasonable discretion are necessary or appropriate to mitigate the consequences of such Unit Holder’s failure to comply with this Section 5.3(b) on the other Unit Holders. If requested by the Board of Managers, such Unit Holder will execute any and all documents, opinions, instruments and certificates as the Board of Managers will have reasonably requested or that are otherwise required to effectuate the foregoing. Any Unit Holder that fails to comply with this Section 5.3(b) will, together with all other Unit Holders that fail to comply with this Section 5.3(b), unless otherwise agreed by the Board of Managers in writing, to the fullest extent permitted by law, indemnify and hold harmless the Board of Managers and the Company for any costs or expenses arising out of such failure or failures, including any withholding tax imposed under Code Sections 1471 through 1474 or as a result of any intergovernmental agreement described in clause (D) above on the Company and any withholding or other taxes imposed as a result of a transfer effected pursuant to this Section 5.3(b). Each Unit Holder acknowledges and agrees that any personal data in respect of such Unit Holder (or any Persons that indirectly hold an interest in the Company through such Unit Holder) provided to the Company in accordance with this Section 5.3(b) may, if required, be disclosed to any tax authority.

5.4 Property Distributions and Installment Sales. If any assets of the Company will be distributed in kind pursuant to this Article 5, such assets will be distributed to the Unit Holders entitled thereto in the same proportions as the Unit Holders would have been entitled to cash Distributions. If the Company distributes property in kind that was contributed to the Company (or received in a tax free exchange for property contributed to the Company), the Company will, if possible, distribute (and be deemed to distribute) such property to the Unit Holder who contributed such property, to the extent that such Unit Holder is entitled to receive a Distribution at such time under the economic priorities set out in this Article 5. The amount by which the Fair Value of any property to be distributed in kind to the Unit Holders exceeds or is less than the then prevailing Asset Value of such property will, to the extent not otherwise recognized by the Company, be taken into account in determining Net Profit and Net Loss and determining the Capital Accounts of the Unit Holders as if such property had been sold at its Fair Value

immediately prior to such Distribution. If any assets are sold in transactions in which, by reason of Code Section 453, gain is realized but not recognized, such gain will be taken into account when realized in computing gain or loss of the Company for purposes of allocation of Net Profit or Net Loss under this Article 5 and, if such sales will involve substantially all the assets of the Company, the Company will be deemed to have been dissolved and terminated notwithstanding any election by the Unit Holders to continue the Company for purposes of collecting the proceeds of such sales. This Section 5.4 will not apply in connection with a Sale of the Company (including, for the avoidance of doubt, any rollover transactions in connection with a Sale of the Company) unless otherwise determined by the Board of Managers.

5.5 Net Profit or Net Loss.

(a) The “Net Profit” or “Net Loss” of the Company for each Fiscal Year or relevant part thereof means an amount equal to the Company’s taxable income or loss for federal income tax purposes for such period (including all items of income, gain, loss or deduction required to be stated separately pursuant to Code Section 703(a)(1)) with the following adjustments:

(i) Any income of the Company that is exempt from federal income tax will constitute Net Profits, and any expenses or expenditures of the Company which may neither be deducted nor capitalized for federal income tax purposes (or are so treated for federal income tax purposes) will constitute Net Losses.

(ii) Gain or loss attributable to the disposition of property of the Company with an Asset Value different than the adjusted basis of such property for federal income tax purposes will be computed with respect to the Asset Value of such property.

(iii) Depreciation, amortization or cost recovery deductions with respect to any property with an Asset Value that differs from its adjusted basis for federal income tax purposes will be computed in accordance with Asset Value.

(iv) If the Asset Value of any of the Company’s property is adjusted pursuant to Section 1.704-1(b)(2)(iv)(e) or (f) of the Regulations, the amount of such adjustment will be taken into account as gain or loss from the disposition of such property for purposes of determining Net Profit or Net Loss.

(v) If the Company makes an election under Code Section 754 to provide a special basis adjustment upon the transfer of an Interest in the Company or the distribution of property by the Company, Capital Accounts will be adjusted to the limited extent required by the Regulations under Code Section 704 following such transfer or distribution.

(vi) Any items that are required to be specially allocated pursuant to Section 5.6 will not be taken into account in determining Net Profit or Net Loss.

(b) *Allocations of Net Profit and Net Loss.* The Net Profit and Net Loss of the Company for any relevant fiscal period or, to the extent necessary to accomplish the

purpose of this Section 5.5(b), gross items of income, gain, deduction, and loss constituting such Net Profit and Net Loss, will be allocated to the Capital Accounts of the Unit Holders so as to ensure, to the extent possible, that the Capital Accounts of the Unit Holders as of the end of such fiscal period, as increased by the Unit Holders' shares of "partnership minimum gain" and "partner nonrecourse debt minimum gain" (as such terms are used in Regulations Section 1.704-2) not otherwise required to be taken into account in such period, plus any other amount which such Unit Holder is deemed obligated to restore pursuant to Regulations Section 1.704-1(b)(2)(i)(c) are equal to the aggregate Distributions that Unit Holders would be entitled to receive (assuming all Units are vested) if all of the assets of the Company were sold for their Asset Values (assuming for this purpose only that the Asset Value of an asset that secures a non-recourse liability for purposes of Regulations Section 1.1001-2 is no less than the amount of such liability that is allocated to such asset in accordance with Regulations Section 1.704-2(d)(2)), all liabilities of the Company were repaid from the proceeds of sale and the net remaining proceeds were distributed as of the end of such accounting period in accordance with Section 14.3. The allocations made pursuant to this Section 5.5 are intended to comply with the provisions of Code Section 704(b) and the Regulations thereunder and, in particular, to reflect the Unit Holders' economic interests in the Company as set forth in Section 5.1, and this Section 5.5 will be interpreted in a manner consistent with such intention.

5.6 Regulatory Allocations. Provisions governing the allocation of taxable income, gain, loss, deduction and credit (and items thereof) are included in this Agreement as may be necessary to provide that the Company's allocation provisions contain a so-called "qualified income offset" and comply with all provisions relating to the allocation of so-called "Nonrecourse Deductions" and "Unit Holder nonrecourse deductions" and the chargeback thereof as set forth in the Regulations under Code Section 704(b).

(a) Net Losses attributable to partner nonrecourse debt (as defined in Regulations Section 1.704-2(b)(4)) will be allocated in the manner required by Regulations Section 1.704-2(i). If there is a net decrease during a Fiscal Year in partner nonrecourse debt minimum gain (as defined in Regulations Section 1.704-2(i)(3)), items of Company income or gain for such Fiscal Year (and, if necessary, for subsequent Fiscal Years) will be allocated to the Unit Holders in the amounts and of such character as determined according to Regulations Section 1.704-2(i)(4). This Section 5.6(a) is intended to be a minimum gain chargeback provision that complies with the requirements of Regulations Section 1.704-2(i)(4) and will be interpreted in a manner consistent therewith.

(b) Nonrecourse deductions (as determined according to Regulations Section 1.704-2(b)(1)) for any Fiscal Year will be allocated to each Unit Holder ratably among such Unit Holders based upon the number of outstanding Class A Units held by each such Unit Holder immediately prior to such allocation. If there is a net decrease in the partnership minimum gain (as defined in Regulations Section 1.704-2(b)(2)) during any Fiscal Year, each Unit Holder will be allocated items of Company income and gain for such Fiscal Year (and, if necessary, for subsequent Fiscal Years) in the amounts and of such character as determined according to Regulations Section 1.704-2(f). This Section 5.6(b) is intended to be a minimum gain chargeback provision that complies with the

requirements of Regulations Section 1.704-2(f), and will be interpreted in a manner consistent therewith.

(c) If any Unit Holder that unexpectedly receives an adjustment, allocation or distribution described in Regulations Sections 1.704-1(b)(2)(ii)(d)(4), (5) and (6) has an Adjusted Capital Account Deficit as of the end of any Fiscal Year, computed after the application of Sections 5.6(a) and 5.6(b) but before the application of any other provision of this Article 5, then items of Company income and gain for such Fiscal Year will be allocated to such Unit Holder in proportion to, and to the extent of, such Adjusted Capital Account Deficit. This Section 5.6(c) is intended to be a qualified income offset provision as described in Regulations Section 1.704-1(b)(2)(ii)(d) and will be interpreted in a manner consistent therewith.

(d) Net Losses will not be allocated to a Unit Holder if such allocation of losses would cause the Unit Holder to have an Adjusted Capital Account Deficit. Net Losses that cannot be allocated to a Unit Holder will be allocated to the other Unit Holders; provided, however, that, if no Unit Holder may be allocated Net Losses due to the limitations of this Section 5.6(d), Net Losses will be allocated to all Unit Holders in accordance with their respective outstanding Class A Units.

(e) To the extent that an adjustment to the adjusted tax basis of any Company asset pursuant to Code Section 734(b) or Code Section 743(b) is required, pursuant to Regulations Section 1.704-1(b)(2)(iv)(m)(2) or Regulations Section 1.704-1(b)(2)(iv)(m)(4), to be taken into account in determining Capital Accounts as the result of a distribution to a Member in complete liquidation of its interest, the amount of such adjustment to the Capital Accounts will be treated as an item of gain (if the adjustment increases the basis of the asset) or loss (if the adjustment decreases such basis), and such gain or loss will be specially allocated to the Members in accordance with their interests in the Company in the event that Regulations Section 1.704-1(b)(2)(iv)(m)(2) applies, or to the Members to whom such distribution was made in the event that Regulations Section 1.704-1(b)(2)(iv)(m)(4) applies.

(f) If, and to the extent that, any Unit Holder is deemed to recognize any item of income, gain, loss, deduction or credit as a result of any transaction between such Unit Holder and the Company pursuant to Code Sections 1272, 1274, 7872, 483, 482, 83 or any similar provision now or hereafter in effect, and the Board of Managers determines that any corresponding items of the Company should be allocated to the Unit Holders who recognized such item in order to reflect the Unit Holders' economic interests in the Company, then the Company may so allocate such items.

(g) The allocations set forth in Sections 5.6(a) through 5.6(e) (the "Regulatory Allocations") are intended to comply with certain requirements of Sections 1.704-1(b) and 1.704-2 of the Regulations. The Regulatory Allocations may not be consistent with the manner in which the Unit Holders intend to allocate Net Profit and Net Loss of the Company or make Company distributions. Accordingly, notwithstanding the other provisions of this Article 5, but subject to the Regulatory Allocations and the provisions of the Code and the Regulations, income, gain, deduction, and loss will be reallocated among

the Unit Holders so as to eliminate the effect of the Regulatory Allocations and thereby cause the respective Capital Accounts of the Unit Holders to be in the amounts (or as close thereto as possible) they would have been if Net Profit and Net Loss (and such other items of income, gain, deduction and loss) had been allocated without reference to the Regulatory Allocations. In general, the Unit Holders anticipate that this will be accomplished by specially allocating other Net Profit and Net Loss (and such other items of income, gain, deduction and loss including gross items if permitted) among the Unit Holders so that the net amount of the Regulatory Allocations and such special allocations to each such Unit Holder is zero. For this purpose the Board of Managers, based on the advice of the Company's auditors or tax counsel, is hereby authorized to make such special curative allocations of items as may be necessary to minimize or eliminate any economic distortions that may result from any required Regulatory Allocations. In addition, if in any Fiscal Year or other fiscal period there is a decrease in partnership minimum gain, or in partner nonrecourse debt minimum gain, and application of the minimum gain chargeback requirements set forth in Sections 5.6(a) or 5.6(b) would cause a distortion in the economic arrangement among the Unit Holders, the Unit Holders may, if they do not expect that the Company will have sufficient other income to correct such distortion, request the Internal Revenue Service to waive either or both of such minimum gain chargeback requirements. If such request is granted, this Agreement will be applied in such instance as if it did not contain such minimum gain chargeback requirement.

(h) For purposes of determining each Unit Holder's share of any "Excess Nonrecourse Liabilities," if any, of the Company in accordance with Regulation Section 1.752-3(a)(3), the Unit Holder's interests in Company profits will be based on the relative number of Units.

(i) The Unit Holders acknowledge that allocations analogous to those described in Proposed Regulations Section 1.704-1(b)(4)(xii)(c) result from the allocations of Net Profits and Net Losses provided for in this Agreement. For the avoidance of doubt, the Company is entitled to make such allocations and, once required by applicable final or temporary guidance, allocations of Net Profits and Net Losses will be made in accordance with Proposed Regulations Section 1.704-1(b)(4)(xii)(c) or any successor provision or guidance.

(j) The Board of Managers shall make any corrective allocations necessary to comply with the Regulations promulgated under Section 704(b) of the Code regarding partnership non-compensatory options.

## 5.7 Tax Allocations.

(a) *Contributed Assets.* In accordance with Code Section 704(c), income, gain, loss and deduction with respect to any property contributed to the Company with an adjusted basis for federal income tax purposes different from the initial Asset Value at which such property was accepted by the Company will, solely for tax purposes, be allocated among the Unit Holders so as to take into account such difference using any method allowed by Code Section 704(c) and the Regulations and approved by the Board of Managers.

(b) *Revalued Assets.* If the Asset Values of any assets of the Company are adjusted pursuant to Section 4.2, subsequent allocations of income, gain, loss and deduction with respect to such assets will, solely for tax purposes, be allocated among the Unit Holders so as to take into account such adjustment using any method allowed by Code Section 704(c) and the Regulations and approved by the Board of Managers.

(c) *Elections and Limitations.* The allocations required by this Section 5.7 are solely for purposes of federal, state and local income taxes and will not affect the allocation of Net Profits or Net Losses as between Unit Holders or any Unit Holder's Capital Account. All tax allocations required by this Section 5.7 will be made using any method permitted by Regulations Section 1.704-3 as determined by the Board of Managers, with the advice of the Company's auditors or tax counsel.

(d) *Allocations.* Except as set forth above or otherwise required by law, all items of income, deduction, loss and credit will be allocated for federal, state and local income tax purposes in the same manner such items are allocated for purposes of maintaining Capital Accounts; except that, if any such allocation is not permitted by the Code or other applicable law, then the Company's subsequent income, gains, losses, deductions, and credits will be allocated among the Unit Holders so as to reflect as nearly as possible the allocation set forth herein in computing their Capital Accounts.

5.8 Changes in Members' Interests. If during any year there is a change in any Member's interest, the Board of Managers will confer with the tax advisors to the Company and, in conformity with such advice allocate the Net Profit or Net Loss to the Members so as to take into account the varying interests of the Members in the Company in a manner that complies with the provisions of Code Section 706 and the Regulations thereunder.

5.9 Forfeiture Allocations. If a holder of unvested Class P Units forfeits such Units, forfeiture allocations shall be made, at the sole discretion of the Board of Managers, to such forfeiting holder (consisting of a pro rata portion of each item) of gross income and gain or gross deduction and loss (to the extent such items are available) for the Fiscal Year of the forfeiture in accordance with Proposed Treasury Regulations Section 1.704-1(b)(4)(xii)(e).

## **6. STATUS, RIGHTS AND POWERS OF UNIT HOLDERS.**

6.1 Limited Liability. Except as otherwise provided by the Act, the debts, expenses, obligations and liabilities of the Company, whether arising in contract, tort or otherwise, will be solely the debts, expenses, obligations and liabilities of the Company, and no Unit Holder or Indemnified Person will be obligated personally for any such debt, expense, obligation or liability of the Company solely by reason of being a Unit Holder or Indemnified Person. All Persons dealing with the Company will have recourse solely to the assets of the Company for the payment of the debts, expenses, obligations or liabilities of the Company. In no event will any Unit Holder be required to make up any deficit balance in such Unit Holder's Capital Account upon the liquidation of such Unit Holder's Interest or otherwise.

6.2 Return of Distributions of Capital. Except as expressly set forth in this Agreement or as otherwise expressly required by law, a Unit Holder, in such capacity, will have no liability

for obligations or liabilities of the Company in excess of (a) the amount of such Unit Holder's Capital Contributions, (b) such Unit Holder's share of any assets and undistributed profits of the Company and (c) to the extent required by law, the amount of any Distributions wrongfully distributed to such Unit Holder. Except as expressly set forth in this Agreement or as otherwise required by law, no Unit Holder will be obligated by this Agreement to return any Distribution to the Company or pay the amount of any Distribution for the account of the Company or to any creditor of the Company; provided, however, that if any court of competent jurisdiction holds that, notwithstanding this Agreement, any Unit Holder is obligated to return or pay any part of any Distribution, such obligation will bind such Unit Holder alone and not any other Unit Holder or any Board Member and provided, further, that if any Unit Holder is required to return all or any portion of any Distribution under circumstances that are not unique to such Unit Holder but that would have been applicable to all Unit Holders if such Unit Holders had been named in the lawsuit against the Unit Holder in question (such as where a Distribution was made to all Unit Holders and rendered the Company insolvent, but only one Unit Holder was sued for the return of such Distribution), the Unit Holder that was required to return or repay the Distribution (or any portion thereof) will be entitled to reimbursement from the other Unit Holders that were not required to return the Distributions made to them based on each such Unit Holder's share of the Distribution in question. The provisions of the immediately preceding sentence are solely for the benefit of the Unit Holders and will not be construed as benefiting any third party. The amount of any Distribution returned to the Company by a Unit Holder or paid by a Unit Holder for the account of the Company or to a creditor of the Company will be added to the account or accounts from which it was subtracted when it was distributed to such Unit Holder.

6.3 No Management or Control. Except as expressly provided in this Agreement, no Unit Holder, solely in such Person's capacity as a Unit Holder, will take part in or interfere in any manner with the management of the business and affairs of the Company or have any right or authority to act for or bind the Company.

**7. DESIGNATION, RIGHTS, AUTHORITIES, POWERS, RESPONSIBILITIES AND DUTIES OF THE BOARD OF MANAGERS; MEETINGS OF THE MEMBERS.**

**7.1 Establishment of the Board of Managers; General Powers of the Board of Managers.**

(a) The overall management and control of the business and affairs of the Company will be vested in a Board of Managers (the "Board of Managers") who may delegate the day to day management and control of the business and affairs of the Company to such officers and other employees or agents as they deem necessary or advisable as and to the extent provided in this Article 7. The Board of Managers will initially be comprised of Kristin Rogers and Kaitlyn Brosnan. Thereafter, the individuals constituting the Board of Managers will be determined in accordance with the provisions of Section 7.2. Section 7.2 sets forth the procedures for the conduct of the affairs of the Board of Managers. Subject to the provisions of this Agreement, the Board, acting by majority vote, shall have the full and complete authority, power and discretion to manage and control the business, affairs, and properties of the Company, to make all decisions regarding those matters and to perform any and all other acts or activities customary or incident to the management of the Company's

business, and the Members shall have only the voting rights specifically provided in this Agreement or, if and to the extent not specified herein, the Act.

(b) A decision of the Board of Managers may be amended, modified or repealed in the same manner in which it was adopted or in accordance with the procedures set forth in Section 7.2 below as then in effect; provided, however, that no such amendment, modification or repeal will affect any Person who has been furnished a copy of the original resolution, certified by a duly authorized officer of the Company, until such Person has been notified in writing of such amendment, modification or repeal; and provided, further that no such amendment, modification or repeal will invalidate actions previously authorized by such original resolution with respect to any Person if such original resolution has been relied upon by such Person.

## 7.2 Board of Managers.

(a) . *Number; Appointment; Votes.* Upon the effectiveness of this Agreement, the authorized number of members of the Board of Managers (each, a “Board Member”) will initially be two (2) Board Members, and will be comprised of Kristin Rogers and Kaitlyn Brosnan. Until a Founder’s Threshold Date, each Manager, and, if applicable, each Unit Holder, shall cause such Founder to be elected as a Board Member, unless there is Cause, and such Founder may not be removed as a Board Member, except for Cause. The number of Board Members after the date hereof may be increased or decreased from time to time by a vote of a majority of the Board Members, provided that, until the Founder’s Threshold Date the number of Managers constituting the full Board of Managers shall not be increased to more than three (3) without the prior written consent of any Founder who has not reached the Founder’s Threshold Date,

(b) *Tenure.* Each Board Member will hold office until he or she sooner dies or resigns or is terminated by the Majority.

(c) *Vacancies.* The Board of Managers will have and may exercise all their powers notwithstanding the existence of one or more vacancies in their number, subject to any requirements of law or of this Agreement as to the number of Board Members required for a quorum or for any vote or other actions.

(d) *Meetings.* Meetings of the Board of Managers may be held at any time and at any place within or without the Commonwealth of Massachusetts designated in the notice of the meeting, when called by the Chairman of the Board of Managers, or by a majority of the votes held by the Board of Managers then in office, reasonable notice thereof being given to each Board Member.

(e) *Notice.* It will be reasonable and sufficient notice to a Board Member to send notice by overnight delivery, e-mail or by facsimile at least two days before the meeting addressed to such Board Member at such Board Member’s usual or last known business or residential address or to give notice to such Board Member in person or by telephone at least two days before the meeting. Notice of a meeting need not be given to any Board Member if a written waiver of notice, executed by such Board Member before

or after the meeting, is filed with the records of the meeting, or to any Board Member who attends the meeting without protesting prior thereto or at its commencement the lack of notice to such Board Member. Neither notice of a meeting nor a waiver of a notice need specify the purposes of the meeting.

(f) *Quorum.* No action may be taken at a meeting of the Board of Managers or at a meeting of a committee of the Board of Managers unless a quorum is present. At any meeting of the Board of Managers or a committee thereof a quorum will exist only if a majority of the votes held by the Board Members participate. Any meeting may be adjourned from time to time by a majority of the votes cast upon the question, whether or not a quorum is present, and the meeting may be held as adjourned without further notice.

(g) *Action by Vote.* Except as may be otherwise required by law, when a quorum is present at any meeting the vote of a majority of the Board Members present shall constitute the act of the Board of Managers.

(h) *Proxies.* A Board Member may vote at a meeting of the Board of Managers or any committee thereof either in person or by proxy executed in writing by such Board Member. Proxies for use at any meeting of the Board of Managers or any committee thereof or in connection with the taking of any action by written consent will be filed with the Board of Managers, before or at the time of the meeting or execution of the written consent as the case may be.

(i) *Action Without a Meeting.* Any action required or permitted to be taken at any meeting of the Board of Managers may be taken without a meeting if at least a majority of votes held by the Board of Managers approve or authorize such action in writing or by electronic communication and such writing or writings are filed with the records of the meetings of the Board of Managers. Such consent will be treated for all purposes as the act of the Board of Managers.

(j) *Participation in Meetings by Conference Telephone.* Board Members may participate in a meeting of the Board of Managers by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other or by any other means permitted by law. Such participation will constitute presence in person at such meeting.

(k) *Compensation.* Each Board Member will be reimbursed for such Board Member's reasonable out-of-pocket expenses incurred in the performance of such Board Member's duties as a Board Member. Nothing contained in this Section 7.2(k) will be construed to preclude any Board Member from serving the Company in any other capacity and receiving reasonable compensation therefor.

(l) *Committees.* The Board of Managers may, by vote of a majority of votes held by all Board Members, (i) designate, change the membership of or terminate the existence of any committee or committees, each committee to consist of one or more of the Board Members, (ii) designate one or more Board Members as alternate members of any such committee who may replace any absent or disqualified member at any meeting of the

committee and (iii) determine the extent to which each such committee will have and may exercise the powers of the Board of Managers in the management of the business and affairs of the Company, excepting, however, such powers which by law or by this Agreement they are prohibited from so delegating. In the absence or disqualification of any member of such committee and his or her alternate, if any, the member or members thereof present at any meeting and not disqualified from voting, whether or not constituting a quorum, may unanimously appoint another member of the Board of Managers to act at the meeting in the place of any such absent or disqualified member. Except as the Board of Managers may otherwise determine, any committee may make rules for the conduct of its business, but unless otherwise provided by the Board of Managers or such rules, its business will be conducted as nearly as may be in the same manner as is provided by this Agreement for the conduct of business by the Board of Managers. Each committee will keep regular minutes of its meetings and report the same to the Board of Managers upon request.

(m) *Liability for Certain Acts.* To the maximum extent permitted by law, no Manager shall have any fiduciary obligations to the Company or the Unit Holders, and each Unit Holder hereby waives all such fiduciary duties and agrees that the Managers obligations shall be governed by the terms of this Agreement. The Managers and officers of the Company shall perform their managerial duties in good faith, in a manner they reasonably believe to be in the best interests of the Company, and with such care as an ordinarily prudent person in a like position would use under similar circumstances. No Manager shall have any liability to the LLC or to any Member for any loss suffered by the LLC that arises out of any action or inaction of any Manager, if such Manager, in good faith, determined that such course of conduct was in the best interests of the LLC, and such course of conduct did not constitute gross negligence or willful misconduct of such Manager. No Manager or officer of the Company, in any way, guarantees the return of any Member's Capital Contributions or a profit for the Members from the operations of the Company. No Manager or officer shall be liable to the Company or to any Member for any loss or damage sustained by the Company or any Member, unless the loss or damage shall have been the result of fraud, gross negligence, willful misconduct, or a wrongful taking by such Manager or officer.

7.3 Authority of Board of Managers. Except as otherwise expressly provided in this Agreement, the Board of Managers will have the exclusive power and authority to manage the business and affairs of the Company and to make all decisions with respect thereto in its sole discretion. Except as otherwise expressly provided in this Agreement, the Board of Managers or Persons designated by the Board of Managers, including officers and agents appointed by the Board of Managers, will be the only Persons authorized to execute documents which will be binding on the Company. To the fullest extent permitted by Massachusetts law, but subject to any specific provisions hereof granting rights to Members, the Board of Managers will have the power to perform any acts, statutory or otherwise, with respect to the Company or this Agreement, which would otherwise be possessed by the Members under Massachusetts law, and the Unit Holders will have no power whatsoever with respect to the management of the business and affairs of the Company. The power and authority granted to the Board of Managers hereunder will include all those necessary, convenient or incidental for the accomplishment of the purposes of the Company and the exercise of the powers of the Company set forth in Section 2.6 above and will include the power to make all decisions with regard to the management, operations, assets, financing and

capitalization of the Company, including the power and authority to undertake and make decisions concerning: (a) hiring and firing employees, attorneys, accountants, brokers, investment bankers and other advisors and consultants; (b) opening bank and other deposit accounts and operations thereunder; (c) borrowing money, obtaining credit, issuing notes, debentures, securities, equity or other interests of or in the Company and securing the obligations undertaken in connection therewith with mortgages, pledges and security interests; (d) making investments in or the acquisition of securities of any Person; (e) giving guarantees and indemnities; (f) entering into contracts or agreements, including with Unit Holders and their Affiliates, whether in the ordinary course of business or otherwise; (g) mergers with or acquisitions of other Persons; (h) dissolution; (i) the sale of all or any portion of the assets of the Company; (j) forming subsidiaries or joint ventures; (k) compromising, arbitrating, adjusting and litigating claims in favor of or against the Company; and (l) adopting policies binding on each member of the Board of Managers, including a code of conduct or code of ethics. Except as otherwise expressly stated herein, any decision, action, approval, authorization, election or determination made by the Board of Managers in furtherance of the terms herein may be made by the Board of Managers in its sole discretion, and only upon achieving a majority of votes held by all the Board Members.

7.4 Reliance by Third Parties. Any Person dealing with the Company or the Members may rely upon a certificate signed by such Board Members constituting a majority of votes held by the Board of Managers as to: (a) the identity of the Unit Holders, (b) the existence or non-existence of any fact or facts which constitute a condition precedent to acts by Unit Holders or are in any other manner germane to the affairs of the Company, (c) the Persons which are authorized to execute and deliver any instrument or document of or on behalf of the Company; (d) the authorization of any action by or on behalf of the Company by the Board of Managers or any officer or agent acting on behalf of the Company; or (e) any act or failure to act by the Company or as to any other matter whatsoever involving the Company.

7.5 Directors' and Officers' Insurance. The Company may purchase and maintain directors' and officers' liability insurance as determined by the Board of Managers.

7.6 Responsibilities and Meetings of Members.

(a) *No Annual Meeting.* There shall be no annual meeting of the Members, who shall only meet as needed.

(b) *Special Meetings.* Special meetings of the Members, for any purpose or purposes, including the removal of a member of the Board of Managers, if necessary, unless otherwise prescribed by statute, may be called by one or more Members holding at least twenty-five percent (25%) of the outstanding Class A Units.

(c) *Place of Meetings.* The Members may designate any place, either within or outside the State, as the place of meeting for any meeting of the Members. If no designation is made, or if a special meeting be otherwise called, the place of meeting shall be the principal executive office of the Company in the State.

(d) *Notice of Meetings.* Except as provided in Section 7.6(e) below, written notice stating the place, day, and hour of the meeting and the purpose or purposes for which the

meeting is called shall be delivered no fewer than five (5) nor more than thirty (30) days before the date of the meeting, either personally or by mail, electronic mail, by facsimile or by recognized overnight courier, by or at the direction of the Member(s) calling the meeting, to each Member. If sent by facsimile, the notice shall be deemed to be delivered at the time that receipt thereof has been acknowledged by electronic confirmation or otherwise. If sent by recognized overnight courier, the notice shall be deemed to be delivered two (2) business days after being dispatched. If mailed, the notice shall be deemed to be delivered five (5) business days after being deposited in the United States mail, addressed to the Member at the Member's address as it appears on the books of the Company, with postage thereon prepaid.

(e) *Meeting of Members.* If Members holding more than fifty percent (50%) of the Class A Units in the Company shall meet at any time and place, either within or outside of the State, and consent to the holding of a meeting at that time and place, the meeting shall be valid without call or notice, and at the meeting lawful action may be taken. A meeting of Members shall be called by an officer of the Company within twenty (20) days of receipt of a written demand from Members holding more than fifty percent (50%) of the Class A Units in the Company. Written notice of any action taken by Members (whether at a meeting or by written consent) shall be sent to all Members within ten (10) days of such action being taken.

(f) *Record Date.* For the purpose of determining Members entitled to notice of any meeting of Members or any adjournment of the meeting, or Members entitled to receive payment of any distribution, or to make a determination of Members for any other purpose, the date on which notice of the meeting is mailed or the date on which the resolution declaring the distribution is adopted, as the case may be, shall be the record date for the determination of Members. When a determination of Members entitled to vote at any meeting of Members has been made as provided in this Section, the determination shall apply to any adjournment of the meeting.

(g) *Quorum.* Members holding more than fifty percent (50%) of the Class A Units, represented in person or by proxy, shall constitute a quorum at any meeting of Members. In the absence of a quorum at any meeting of Members, a majority of the Class A Units so represented may adjourn the meeting from time to time for a period not to exceed sixty (60) days without further notice. However, if the adjournment is for more than sixty (60) days, or if after the adjournment a new record date is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each Member at the meeting. At an adjourned meeting at which a quorum shall be present or represented, any business may be transacted which might have been transacted at the meeting as originally noticed. The Members present at a duly organized meeting may continue to transact business until adjournment, notwithstanding the withdrawal during the meeting of Members holding voting interests whose absence would cause less than a quorum.

(h) *Manner of Acting.* If a quorum is present, the vote of the Majority shall be the act of the Members, unless the vote of a greater or lesser proportion or number is otherwise required by the Act or by this Agreement.

(i) *Proxies.* At all meetings of Members, a Member may vote in person or by proxy executed in writing by the Member or by a duly authorized attorney-in-fact. The proxy

shall be filed with the Treasurer of the Company before or at the time of the meeting. No proxy shall be valid after 11 months from the date of its execution, unless otherwise provided in the proxy.

(j) *Action by Members Without a Meeting.* Action required or permitted to be taken at a meeting of Members may be taken without a meeting if the action is evidenced by one or more written consents describing the action taken, signed by Members having the voting interests required to take such action at a duly called meeting and delivered to the Treasurer of the Company for inclusion in the minutes or for filing with the Company records.

(k) *Waiver of Notice.* When any notice is required to be given to any Member, a waiver of the notice in writing signed by the person entitled to the notice, whether before, at, or after the time stated therein, shall be equivalent to the giving of the notice.

## **8. DESIGNATION, RIGHTS, AUTHORITIES, POWERS, RESPONSIBILITIES AND DUTIES OF OFFICERS AND AGENTS.**

### **8.1 Officers; Agents.**

(a) *Establishment of Officers; Existence of Agent.* The Board of Managers by vote or resolution will have the power to appoint officers and agents to act for the Company with such titles, if any, as the Board of Managers deems appropriate and to delegate to such officers or agents such of the powers as are granted to the Board of Managers hereunder, including the power to execute documents on behalf of the Company, as the Board of Managers may determine; provided, however, that no such delegation by the Board of Managers will cause the Persons constituting the Board of Managers to cease to be the “managers” of the Company within the meaning of the Act. The officers so appointed may include persons holding titles such as Chairman, Chief Executive Officer, Chief Operating Officer, President, Chief Financial Officer, Executive Vice President, Vice President, Secretary, Treasurer or Controller, or such other titles as The Board of Managers may determine. Unless the authority of the officer in question is limited in the document appointing such officer or is otherwise specified by the Board of Managers, any officer so appointed will have the same authority to act for the Company as a corresponding officer of a Massachusetts corporation would have to act for a Massachusetts corporation in the absence of a specific delegation of authority; provided, however, that unless such power is specifically delegated to the officer in question either for a specific transaction or generally in a separate writing, no such officer will have the power to lease or acquire real property, to borrow money, to issue notes, debentures, securities, equity or other interests of or in the Company, to make investments in (other than the investment of surplus cash in the ordinary course of business) or to acquire securities of any Person, to give guarantees or indemnities, to merge, liquidate or dissolve the Company or to sell or lease all or any substantial portion of the assets of the Company.

(b) *Election.* The officers may be elected by the Board of Managers at any time. At any time or from time to time the Board Members may delegate to any officer the power to elect or appoint any other officer or any agents.

(c) *Tenure.* Each officer will hold office until his or her respective successor is chosen and qualified unless a shorter period will have been specified by the terms of his or her election or appointment, or in each case until he or she sooner dies, resigns, is removed or becomes disqualified. Each agent will retain his or her authority at the pleasure of the Board of Managers, or the officer by whom he or she was appointed or by the officer who then holds agent appointive power.

(d) *Chair of the Board of Managers, President and Vice President.* The Chair of the Board of Managers, if any, will have such duties and powers as are designated from time to time by the Board of Managers. Unless the Board of Managers otherwise specifies, the Chair of the Board of Managers, or if there is none the President, will preside, or designate the person who will preside, at all meetings of Members and of the Board of Managers. Unless the Board of Managers otherwise specifies, the President will be the chief executive officer and will have direct charge of all business operations of the Company and, subject to the control of the Board of Managers, will have general charge and supervision of the business of the Company. Any Vice Presidents will have duties as are designated from time to time by the Board of Managers, by the Chair of the Board of Managers or the President.

(e) *Treasurer and Assistant Treasurers.* Unless the Board of Managers otherwise specifies, the Treasurer (or if no Treasurer is elected, the President) will be the chief financial officer of the Company and will be in charge of its funds and valuable papers, and will have such other duties and powers as may be designated from time to time by the Board of Managers, the Chair of the Board of Managers, or the President. If no Controller is elected, the Treasurer (or if no Treasurer is elected, the President) will, unless the Board of Managers otherwise specifies, also have the duties and powers of the Controller. Any Assistant Treasurers will have such duties and powers as are designated from time to time by the Board of Managers, the Chair of the Board of Managers, the President or the Treasurer.

(f) *Controller and Assistant Controllers.* If a Controller is elected, the Controller will, unless the Board of Managers otherwise specifies, be the chief accounting officer of the Company and be in charge of its books of account and accounting records, and of its accounting procedures. The Controller will have such other duties and powers as may be designated from time to time by the Board of Managers, the Chair of the Board of Managers, the President or the Treasurer. Any Assistant Controller will have such duties and powers as are designated from time to time by the Board of Managers, the Chair of the Board of Managers, the President, the Treasurer or the Controller.

(g) *Secretary and Assistant Secretaries.* The Secretary will record all proceedings of the Members and the Board of Managers in a book or series of books to be kept therefor and will file therein all actions by written consent of the Board of Managers. In the absence of the Secretary from any meeting, an Assistant Secretary, or if no Assistant Secretary is present, a temporary secretary chosen at the meeting, will record the proceedings thereof. The Secretary will keep or cause to be kept records, which will contain the names and record addresses of all Unit Holders. The Secretary will have such other duties and powers as may from time to time be designated by the Board of Managers,

the Chair of the Board of Managers or the President. Any Assistant Secretaries will have such duties and powers as are designated from time to time by the Board of Managers, the Chair of the Board of Managers, the President or the Secretary.

(h) *Vacancies.* If the office of any officer becomes vacant, any person or body empowered to elect or appoint that officer may choose a successor. Each such successor will hold office for the unexpired term, and until his or her successor is chosen and qualified or in each case until he or she sooner dies, resigns, is removed or becomes disqualified.

(i) *Resignation and Removal.* The Board of Managers may at any time remove any officer either with or without Cause. The Board of Managers may at any time terminate or modify the authority of any agent. Any officer may resign at any time by delivering his or her resignation in writing to the Chair of the Board of Managers, the President or the Secretary or to a meeting of the Board of Managers. Such resignation will be effective upon receipt unless specified to be effective at some other time, and without in either case the necessity of its being accepted unless the resignation so states.

## **9. BOOKS, RECORDS, ACCOUNTING AND REPORTS.**

9.1 Books and Records. The Company will maintain at its principal office or such other office as the Board of Managers will determine such books and records with respect to the Company's business as the Board of Managers deems appropriate.

9.2 Statements and Reports. The Company shall furnish to each Unit Holder the following reports:

(a) Annual Financial Statements. As soon as available, and in any event within one hundred twenty (120) days after the end of each Fiscal Year, audited consolidated balance sheets of the Company and Company Subsidiaries as at the end of each such Fiscal Year and audited consolidated statements of income, cash flows and Members' equity for such Fiscal Year, in each case prepared in accordance with the tax or such other method of accounting as determined by the Board of Managers.

(b) Quarterly Business Reports. As soon as available, and in any event within sixty (60) days after the end of each quarterly accounting period in each Fiscal Year a report briefly summarizing the business activities and financial status of the Company as at the end of each such fiscal quarter.

9.3 Tax Reports. The Company will use commercially reasonable efforts to provide each Member a preliminary Schedule K-1 (and any comparable foreign, state or local schedules or forms required by law to be provided) within seventy five (75) days after the end of each year (or as soon as practicable thereafter), providing the Company's reasonable best estimate of such Member's share of income, gains, loss, deductions and credits of the Company for the prior year.

9.4 Filings. The Board of Managers will use commercially reasonable efforts to cause the income tax returns for the Company to be prepared and timely filed (taking into account extensions) with the appropriate authorities and to have prepared and to furnish to each Member

such information with respect to the Company (including a schedule setting forth such Member's distributive share of the Company's income, gain, loss, deduction and credit as determined for federal income tax purposes) as is necessary to enable such Member to prepare such Member's federal and state income tax returns. The Board of Managers will also use commercially reasonable efforts to cause to be prepared and timely filed, with appropriate federal and state regulatory and administrative authorities, all reports required to be filed by the Company with those entities under then current applicable laws, rules and regulations.

**9.5    Non-Disclosure.**

(a) Each Unit Holder (on behalf of itself and its directors, officers, affiliates, shareholders, partners, employees, representatives, agents and members) agrees that, except as otherwise consented to by a majority of votes of the Board of Managers, all information from time to time furnished to such Unit Holder, whether or not pursuant to this Agreement, relating to the Company or its Subsidiaries, or of which such Unit Holder otherwise from time to time becomes aware of (collectively, "Confidential Information") will be kept confidential, will not be used for commercial or proprietary advantage and will not be disclosed by such Unit Holder (or its directors, officers, affiliates, shareholders, partners, employees, representatives, agents and members) in any manner, in whole or in part, except that each Unit Holder will be permitted to disclose such Confidential Information (i) to those of such Unit Holder's agents, representatives and employees who need to be familiar with such Confidential Information in connection with such Unit Holder's investment in the Company and who are charged with an obligation of confidentiality and (ii) to the extent required by law, so long as such Unit Holder first provides the Company a reasonable opportunity to contest the necessity of disclosing such Confidential Information.

(b) Nothing in this Section 9.5 will in any way limit or otherwise modify any confidentiality or other restrictive covenants entered into by any present or future Unit Holder pursuant to any other agreement to which such Unit Holder and the Company or any of its Subsidiaries are parties.

**10.    TAX MATTERS.**

10.1 Tax Matters Representative. Unless and until another Member is designated as the tax matters officer by the Board of Managers, Kristin Rogers will be the "Tax Matters Partner" pursuant to Code Section 6231(a)(7) and will serve the related role (including the "partnership representative") under any comparable provision of state or local tax law or successor or subsequent related provision of federal law (including the 2015 Bipartisan Budget Act), and in such capacity is referred to as the "Tax Matters Representative". The Tax Matters Representative is authorized (a) to represent the Company (at the Company's expense) in connection with all examinations by income tax authorities of the Company's affairs and any Company related items, including resulting administrative and judicial proceedings, (b) to sign consents and to enter into settlements and other agreements with such authorities with respect to any such examinations or proceedings, (c) to extend the statute of limitations for any taxes, (d) to take any other significant action affecting the tax liability of or with respect to the Company, and (e) to expend Company funds for professional services and costs associated therewith. Each Unit Holder will cooperate

with the Tax Matters Representative and do or refrain from doing any or all things reasonably requested by the Tax Matters Representative with respect to the conduct of such examinations or proceedings. The Tax Matters Representative has sole discretion to determine whether the Company will contest or continue to contest any income tax deficiencies assessed or proposed to be assessed by any income taxing authority on or with respect to the Company. Each Member (including any former Member) shall indemnify the Company for any imputed underpayment imposed on the Company (and any related interest, penalties or other additions to tax) that the Board of Managers reasonably determines is attributable to such Member (or former Member), and such amount shall be promptly paid by such Member (or former Member) to the Company within 15 days following the Board of Managers' request for payment (and any failure to pay such amount shall accrue interest on such amount calculated at a rate equal to the mid-term applicable federal rate in effect as of the date of the Board of Managers' request for payment plus five percentage points). With respect to any unpaid amounts owed to the Company, the Company may reduce subsequent Distributions otherwise payable to such Member.

10.2 Indemnity of Tax Matters Representative. The Company will indemnify and reimburse, to the fullest extent permitted by law, the Tax Matters Representative for all expenses (including legal and accounting fees) incurred as the Tax Matters Representative pursuant to this Article 10 in connection with any administrative or judicial proceeding with respect to the Company or tax liability of the Unit Holders attributable to their interests in the Company.

10.3 Tax Returns. Unless otherwise agreed by the Board of Managers, all tax returns of the Company will be prepared by the Company's independent certified public accountants.

10.4 Tax Elections. The Board of Managers may cause the Company to make any tax election it deems appropriate, in its sole discretion.

## **11. TRANSFER OF INTERESTS.**

### **11.1 Restricted Transfer.**

(a) *General.* No Unit Holder will directly or indirectly Transfer Units or all or any part of the economic or other rights that comprise such Unit Holder's Interest except in compliance with this Article 11 and Article 12 and any attempted Transfer not in compliance with the terms of this Article 11 or Article 12 will be null and void and the Company will not in any way give effect to any such Transfer. In addition to the foregoing, no Unit Holder will avoid the provisions of this Agreement by either (i) making one or more Transfers to one or more Permitted Transferees and then disposing of all or any portion of such party's interest in any such Permitted Transferee, or (ii) by Transferring the securities of any entity whose primary purpose is to hold (directly or indirectly) Units, or allowing such a Transfer to occur.

(b) *Assignment.* Subject to the terms of this Article 11, including the transfer restrictions in Section 11.1(d), any Unit Holder who assigns any Units or other interest in the Company (any such Unit Holder, an "Assignor") in accordance with this Article 11 or Article 12 will cease to be a Unit Holder of the Company with respect to such Units or other interest and will no longer have any rights or privileges of a Unit Holder with respect

to such Units or other interest (but will still be bound by this Agreement in accordance with this Article 11), including the power and right to vote (in proportion to the extent of the interest Transferred) on any matter submitted to the Members, and, for voting purposes, such interest will not be counted as outstanding in proportion to the extent of the interest Transferred unless and until the transferee is admitted as a Unit Holder in accordance with Section 11.3.

(c) *Assignees.* Subject to the terms of this Article 11, including the transfer restrictions in Section 11.1(d), any Person who acquires in any manner whatsoever any Units or other interest in the Company (any such Person, an “Assignee”), irrespective of whether such Person has accepted and adopted in writing the terms and provisions of this Agreement, will be deemed by the acceptance of the benefits of the acquisition thereof to have agreed to be subject to and bound by all of the terms, conditions and obligations (but until such Person has accepted and adopted in writing the terms and provisions of this Agreement, such Person will be entitled to none of the rights or benefits) of this Agreement that any transferor of such Units or other interest in the Company of such Person was subject to or by which such transferor was bound.

(d) *Restrictions.* Any Unit Holder who proposes to Transfer any Units (for purposes of this Section 11.1 only, a “Prospective Selling Unitholder”) to a Person (other than a Permitted Transferee) shall, prior to such Transfer, (i) first, receive written consent from a majority of votes held by the Board of Managers, and, (ii) second, offer such Units to the Company in accordance with the terms set forth below. Moreover, notwithstanding anything to the contrary in this Agreement, no Transfer will be made (directly or indirectly), which would cause the Company to be treated as a “publicly traded partnership” within the meaning of Code Section 7704(b) and/or Regulations Section 1.7704-1.

(e) *Grant of Right of First Refusal.* The Prospective Selling Unitholder who proposes to Transfer Units hereby unconditionally and irrevocably grants to the Company a Right of First Refusal to purchase all or any portion of the Units that such Prospective Selling Unitholder may propose to Transfer in a Proposed Unitholder Transfer, on the same terms and conditions (including price and form of consideration) as those offered to the third party to whom the Prospective Selling Unitholder proposes to Transfer Units (each a “Third Party Buyer”).

(f) *Notice.* Each Prospective Selling Unitholder proposing to make a Proposed Unitholder Transfer must deliver a Proposed Transfer Notice to the Company not later than thirty (30) days prior to the consummation of such Proposed Unitholder Transfer. Such Proposed Transfer Notice shall contain the material terms and conditions (including price and form of consideration) of the Proposed Unitholder Transfer and the identity of the Third Party Buyer. To exercise its Right of First Refusal under this Section 11.1, the Company must deliver a Company Notice to the Prospective Selling Unitholder within fifteen (15) days after delivery of the Proposed Transfer Notice.

(g) *Closing.* The closing of the purchase by the Company pursuant to this Section 11.1 shall take place, and all payments from the Company shall be delivered to the

Prospective Selling Unitholder, by the later of (i) the date specified in the Proposed Transfer Notice as the intended date of the Proposed Unitholder Transfer and (ii) forty-five (45) days after delivery of the Proposed Transfer Notice. If the Company does not elect to purchase all of the Units that are the subject of the Proposed Unitholder Transfer, then, provided that clause (i) of Section 11.1(d) is satisfied, the Prospective Selling Unitholder shall be free to Transfer those Units which the Company has declined to purchase, provided such Transfer is completed within ninety (90) days after receipt of the Company's decision to decline to purchase such Units (or the expiration of the period set forth in the final sentence of Section 11.1(f)) and is on terms not materially more favorable to the Third Party Buyer than those set forth in the applicable Proposed Transfer Notice. After such period, no Transfer shall be permitted without again complying with the terms of this Section 11.1.

(h) *No Avoidance of Provisions.* (i) No Investor shall, directly or indirectly, permit the Transfer of all or any portion of the direct or indirect equity or beneficial interest in such Investor (including any Transfer of any equity interests in or by the members of such Investor), and (ii) no Investor shall, directly or indirectly, otherwise seek to avoid the provisions of this Agreement by issuing, or permitting the issuance of, any direct or indirect equity or beneficial interest in such Investor, in any such case in a manner which would fail to comply with this Section 11.1 if such Investor had Transferred Units directly.

(i) *Assignment.* The Company may, in the discretion of the Board of Managers, assign all or a portion of its rights pursuant to this Section, including to one or more Unit Holders.

11.2 Permitted Transferees. A Unit Holder will be entitled to Transfer such Unit Holder's Interest to a Person (a "Permitted Transferee") in accordance with the following and subject to the other provisions of this Article 11:

(a) *Estate Planning.* A Unit Holder will be entitled to Transfer all or any portion of such Unit Holder's Interest to a trust for the benefit of such Unit Holder (or, subject to Section 11.1(h), for the benefit of any holder of beneficial equity interests in such Unit Holder), so long as the Unit Holder (or such equityholder of such Unit Holder) controls such trust and guarantees the obligations of such entity in connection with any of the provisions herein; provided, however, that no such Transfer will be effective until the holders of the beneficial interests of such transferee will have delivered to the Company a written acknowledgement and agreement in form and substance reasonably satisfactory to the Company that they will not Transfer any such beneficial interests or permit such transferee to issue any such beneficial interests except to the extent such Transfer or issuance (treating such issuance as a Transfer by such holders) would be permitted under this Section 11.2 if the beneficial interests were Units; provided further that, such Unit Holder will retain voting control of such transferred Units, whether by proxy or other arrangement. In no event will all or any part of an Interest be transferred to a minor or an incompetent except in trust or pursuant to the Uniform Gifts to Minors Act.

(b) *Upon Death.* Upon the death of any Unit Holder who is a natural Person, such Unit Holder's Interest may be Transferred by the will or other instrument taking effect

at death of such Unit Holder or by applicable laws of descent and distribution to such Unit Holder's estate, executors, administrators and personal representatives, and then to such Unit Holder's heirs, legatees or distributees, whether or not such recipients are Members of the Immediate Family of such Unit Holder.

(c) *To the Company.* Each Unit Holder will be entitled to Transfer such Unit Holder's Interest to the Company.

(d) *Compliance with Agreement.* Each Unit Holder will be entitled to Transfer all or any portion of its Interest in connection with the exercise of its "tag along" rights set forth in Section 12.1, in compliance with the "drag along" provisions set forth in Section 12.2 or in compliance with Section 19.1.

(e) *Discretionary Transfers.* Each Unit Holder will be entitled to Transfer such Unit Holder's Interest if such Unit Holder obtains the prior written consent of the Board of Managers and the holders of the Required Interest, which consent in each case may be given or withheld in its respective sole discretion.

11.3 Transfer Requirements. Subject to the provisions of Section 11.1, no Assignee (including a Permitted Transferee) will be admitted to the Company as a Unit Holder and a Member unless the following conditions are satisfied or such conditions are waived by the Board of Managers:

(a) A duly executed written instrument of Transfer is provided to the Board of Managers, specifying the Interests being transferred and setting forth the intention of the Unit Holder effecting the Transfer that the transferee succeed to a portion or all of such Unit Holder's Interest as a Unit Holder;

(b) If requested by the Board of Managers, an opinion of counsel (who may be counsel for the Company) is provided to it, reasonably satisfactory in form and substance to the Board of Managers to the effect that:

(i) such Transfer would not violate the Securities Act or any state securities or blue sky laws applicable to the Company or the Interest to be transferred;

(ii) such Transfer would not cause the Company to be considered a publicly traded partnership under Code Section 7704(b);

(iii) such Transfer would not cause the Company to lose its status as a partnership for federal income tax purposes; and

(iv) such Transfer would not cause a termination of the Company for federal income tax purposes; provided that this Section 11.3(b) will not apply with respect to a Tag Along Transfer or a Drag Along Sale.

(c) The Unit Holder effecting the Transfer and the transferee execute any other instruments that the Board of Managers deems reasonably necessary or desirable for

admission of the transferee, including the written acceptance by the transferee of this Agreement and such transferee's agreement to be bound by and comply with the provisions hereof and execution and delivery to the Board of Managers of a special power of attorney as provided in Section 19.4, and the Unit Holder effecting the Transfer and the transferee provide the Board of Managers any information necessary to comply with the requirements of Code Section 743(e), if applicable;

(d) In no event will any Transfer (other than pursuant to a Sale of the Company or following a Public Offering) be to any competitor of the Company or any of its Subsidiaries; provided that financial institutions and other entities formed solely for investment purposes which are acquiring Units for investment purposes and which are only holding Units will not constitute a competitor of the Company; and

(e) The Unit Holder effecting the Transfer or the transferee pays to the Company a transfer fee in an amount sufficient to cover the reasonable expenses incurred by the Company in connection with the admission of the transferee and provides to the Company any information necessary for the Company to make required basis adjustments and comply with tax reporting requirements.

11.4 Consent. The Board of Managers hereby agrees that upon satisfaction of the terms and conditions of this Article 11 with respect to any proposed Transfer, the Person proposed to be such Assignee may be admitted as a Unit Holder and a Member.

11.5 Withdrawal of Member. If a Member Transfers all of its Interest pursuant to Section 11.1 and the Assignee of such interest is admitted as a Member pursuant to Section 11.4, such Assignee will be admitted to the Company as a Member effective on the effective date of the Transfer or such other date as may be specified when the Assignee is admitted and, if such Assignor has not already ceased to be a Unit Holder pursuant to Section 11.1(b), then immediately following such admission the Assignor will cease to be a Member of the Company. Upon the Assignor ceasing to be a Member, the Assignor will not be entitled to any Distributions from and after the date of such Transfer. Notwithstanding the admission of an Assignee as a Member and except as otherwise expressly approved by the Board of Managers, the Assignor will not be released from any obligations to the Company as a Member (or otherwise) existing as of the date of the Transfer (other than obligations of the Assignor to make future capital contributions, if any), including the obligations set forth in Section 5.3, Section 9.5 and Section 15.3.

11.6 Additional Transfer Restrictions. Notwithstanding anything to the contrary contained herein, (a) all pledges of Units held by a Unit Holder will only be made with the written consent of the Board of Managers and (b) no Unit Holder will be entitled to transfer Class P Units without the written consent of the Board of Managers.

11.7 Amendment of Schedule I. In the event of the admission of any transferee as a Member of the Company, the Board of Managers will promptly amend Schedule I to reflect such Transfer or admission, as the case may be.

## 12. “TAG ALONG” AND “DRAG ALONG” RIGHTS.

12.1 Tag Along. If a Founder (the “Transferring Investor”) proposes to Transfer any Units to a third party (a “Prospective Buyer”) in a transaction which is not (A) to a Permitted Transferee under the terms of Section 11.2 or (B) a Transfer in connection with which the Majority has elected to exercise its “drag along” rights under Section 12.2 (the “Tag Along Transfer”):

(a) *Notice*. The Transferring Investor will deliver a written notice (the “Tag Along Notice”) to each Unit Holder holding the same class or classes of Units held by such Transferring Investor (each, a “Tag Along Holder”), at least 10 business days prior to such Tag Along Transfer. The Tag Along Notice will include:

(i) The principal terms of the proposed Tag Along Transfer insofar as it relates to such Units, including (A) the number and class of Units to be purchased from the Transferring Investor, (B) the fraction, expressed as a percentage, determined by dividing the number of each class of Units to be purchased from the Transferring Investor by the total number of each such class of Units held by the Transferring Investor (each a “Tag Along Transfer Percentage”), (C) the estimated purchase price per respective Unit, (D) the anticipated form of consideration for each such Unit, (E) the name and address of the Prospective Buyer and (F) the expected closing date for the Transfer; and

(ii) An invitation to each Tag Along Holder to make an offer to include in the Tag Along Transfer to the applicable Prospective Buyer an additional number of issued and outstanding Units of each class held by such Tag Along Holder that are of the same class being proposed for Transfer by the Transferring Investor (not in any event to exceed the product of the Tag Along Transfer Percentage multiplied by the total number of Units of each class held by such Tag Along Holder), on the same economic terms and conditions with respect to each such class of Units as the Transferring Investor will Transfer each of their respective class of Units, provided that if the Transferring Investor is Transferring multiple classes of Units, each Tag Along Holder may be required to Transfer the same classes of Units in the same proportion as the Transferring Investor.

(b) *Exercise*. Within 10 business days after the delivery of the Tag Along Notice, each Tag Along Holder desiring to make an offer to include any outstanding Units in the Tag Along Transfer (each a “Tag Along Seller”) will furnish a written notice (the “Tag Along Offer”) to the Transferring Investor offering to include a number of issued and outstanding Units (not in any event to exceed the product of the Tag Along Transfer Percentage multiplied by the total number of Units of the applicable class held by such Tag Along Holder) which such Tag Along Seller desires to have included in the Tag Along Transfer. Each Tag Along Holder who does not timely accept the Transferring Investor’s invitation will be deemed to have waived all of its rights with respect to such Tag Along Transfer, and the Transferring Investor and the Tag Along Sellers will thereafter be free to Transfer to the Prospective Buyer, at a price per respective Unit no more than the price per applicable class of Units set forth in the Tag Along Notice, without any further obligation to such non-accepting Tag Along Holder with respect to such transaction.

(c) *Irrevocable Offer.* The offer of each Tag Along Seller contained in his, her or its Tag Along Offer will be irrevocable, and, to the extent such offer is accepted, such Tag Along Seller will be bound and obligated to Transfer in the Tag Along Transfer on the same terms and conditions, with respect to each applicable class of Units, as the Transferring Investor, up to such number of applicable class of Units as such Tag Along Seller will have specified in his, her or its Tag Along Offer; provided, however, that if the principal terms of the Tag Along Transfer change with the result that any price per respective Unit will be less than 90% of the price per applicable Unit set forth in the Tag Along Notice, each Tag Along Seller will be permitted to withdraw the offer contained in his, her or its Tag Along Offer and will be released from his, her or its obligations thereunder.

(d) *Reduction of Units Transferred.* The Transferring Investor will use commercially reasonable efforts to obtain the inclusion in the proposed Transfer of the entire number of Units of each applicable class which each of the Transferring Investor and the Tag Along Sellers requested to have included in the Tag Along Transfer (as evidenced in the case of the Transferring Investor by the Tag Along Notice and in the case of each Tag Along Seller by such Tag Along Seller's Tag Along Offer). In the event the Transferring Investor is unable to obtain the inclusion of such entire number of Units of each applicable class in the Tag Along Transfer, the number of each applicable class of Units to be Transferred in the Tag Along Transfer will be allocated among the Transferring Investor and the Tag Along Sellers in proportion, as nearly as practicable, to the respective number of each applicable class of Units which each of the Transferring Investor and Tag Along Sellers requested to be included in the Tag Along Transfer.

(e) *Application of Proceeds.* The proceeds of any Tag Along Transfer which are paid to the Transferring Investor and the Tag Along Sellers in their capacity as Unit Holders and to which this Section 12.1 applies will be allocated among the Transferring Investor and the Tag Along Sellers based upon the classes of Units included or deemed to be included in the Tag Along Transfer by each of the Transferring Investor and the Tag Along Sellers as if the proceeds of such Tag Along Transfer were paid to the Transferring Investor and the Tag Along Sellers pursuant to Section 5.1(b) of this Agreement in connection with a Distribution and the Units of the Transferring Investor and the Tag Along Sellers included or deemed to be included in such Tag Along Transfer were the only outstanding Units of the Company at the time of such Distribution. Any amount otherwise allocable to the Transferring Investor and the Tag Along Sellers under this Section 12.1(e) will be subject to reduction for any tax or other amounts required to be withheld under applicable law.

(f) For the avoidance of doubt, the term "Tag Along Holder" will not include any Class P Units held by any Unit Holder.

12.2 Drag Along. Each Unit Holder hereby agrees that if the holders of a majority of Units, excluding all Class P Units (the "Majority") seek to pursue a Sale of the Company to a Prospective Buyer (a "Drag Along Sale"), each direct and indirect Unit Holder of the Company will be deemed to have provided any applicable consent to and favorable vote for (and, if requested, to confirm such consent to and vote for in writing), and agrees to raise no objections

against, such Drag Along Sale, and, if applicable, each Unit Holder will Transfer in such Drag Along Sale the same percentage of each class of Units held by such Unit Holder as the highest percentage of any class of Units held by the Majority that the Majority proposes to Transfer (a “Drag Along Sale Percentage”), directly or indirectly, to a Prospective Buyer in the manner and on the terms set forth in this Section 12.2 in connection with such Drag Along Sale, and will further comply with this Section 12.2 as follows:

(a) *Exercise.* If the Majority elects to exercise its rights under this Section 12.2 with respect to a Drag Along Sale, each Unit Holder (each a “Drag Along Seller”) will be bound and obligated by the terms of such Drag Along Sale and, if applicable, will be bound and obligated to Transfer the Drag Along Sale Percentage of each class of Units held by such Unit Holder in the Drag Along Sale on the same economic terms and conditions (subject to Section 12.2(b) and Section 12.3(b)), with respect to each Unit Transfer, as the Majority will Transfer each Unit in the Drag Along Sale.

(b) *Application of Proceeds.* The proceeds of any Drag Along Sale received by any Unit Holder in his, her or its capacity as such to which this Section 12.2 applies will be allocated among the Majority and the Drag Along Sellers based upon the classes of Units included or deemed to be included in such Drag Along Sale by each of the Majority and the Drag Along Sellers as if the proceeds of such Drag Along Sale were paid to the Majority and the Drag Along Sellers pursuant to Section 5.1(b) of this Agreement in connection with a Distribution and the Units of the Majority and the Drag Along Sellers included or deemed to be included in such Drag Along Sale were the only outstanding Units of the Company at the time of such Distribution. Any amount otherwise allocable to the Majority and the Drag Along Sellers under this Section 12.2(b) will be subject to reduction for any tax or other amounts required to be withheld under the provisions of any documents executed in connection with the Drag Along Sale or otherwise under applicable law. Notwithstanding anything to the contrary contained herein, at the Board of Managers’ election, the proceeds with respect to a Sale of the Company or a sale of a Company Subsidiary may be withheld from any Unit Holder pending the execution of the deliveries set forth in Section 12.3(a) or the posting of such Unit Holder’s pro rata share of any security as the Board of Managers deems necessary to cover any purchase price adjustments, indemnification or such other obligations of the Company or a Unit Holder as set forth in Section 12.3(a).

(c) *Dissenter’s Rights, Etc.* Each Unit Holder hereby acknowledges and agrees that, in connection with a Sale of the Company (whether a Drag Along Sale or otherwise), such Unit Holder is not entitled to any dissenter’s rights, appraisal rights or similar rights under the Act or otherwise, and hereby waives all related claims (including any claims for breach of fiduciary duty arising out of or related to any Sale of the Company or any sale of a Company Subsidiary, including claims relating to the fairness of such Sale of the Company or such sale of a Company Subsidiary, the amount, nature, form or terms of consideration paid for Units in such Sale of the Company or such sale of a Company Subsidiary even if such Sale of the Company or such sale of a Company Subsidiary results in no consideration being paid or payable to any or all of the Unit Holders, the process or timing of such Sale of the Company or such sale of a Company Subsidiary, or any similar claims).

12.3 Miscellaneous. The following provisions will apply to any Tag Along Transfer or Drag Along Sale to which Section 12.1 or Section 12.2, respectively, applies:

(a) *Further Assurances.* The Company will, and will cause its Subsidiaries to, and each Tag Along Seller and Drag Along Seller (each, a “Participating Seller”), whether in his, her or its capacity as a Participating Seller, Unit Holder, manager, employee or officer of the Company or any of its Subsidiaries, or otherwise, will take or cause to be taken all such actions as may be necessary, reasonably desirable or otherwise requested by the Majority in order to expeditiously pursue and consummate each Tag Along Transfer pursuant to Section 12.1 or Drag Along Sale pursuant to Section 12.2 and any related transactions (including any auction or competitive bid process in connection with and/or preceding such Transfer), including executing, acknowledging and delivering transfer agreements, sale agreements, escrow agreements, consents, assignments, releases of claims (including claims against the Company, its Subsidiaries, its managers, the Managers, the Majority, their Affiliates and the Prospective Buyer in a Drag Along Sale whether in connection with, prior to or subsequent to such Drag Along Sale), waivers, and any other documents or instruments which in each case are no more burdensome than those executed by the Majority; furnishing information and copies of documents; filing applications, reports, returns, filings and other documents or instruments with governmental authorities; cooperating at the expense of the Company with the Majority, the Prospective Buyer and their respective Representatives; attending diligence meetings and responding to diligence requests; and engaging outside advisors (including investment banking, accounting and law firms), in each case acceptable to the Majority in their sole discretion. Each Unit Holder will be obligated to make customary representations and warranties as are negotiated by the Majority in connection with the Tag-Along Transfer or the Drag Along Sale; moreover, each Unit Holder will be obligated to join up to such Unit Holder’s pro rata share in any purchase price adjustments, indemnification or other obligations that the sellers of Units, other equity interests or assets are required to provide in connection with the Tag-Along Transfer or the Drag Along Sale, as applicable, such that proceeds will be distributed as if they had been distributed after giving effect to such adjustments, indemnification and other obligations (other than any such obligations that relate solely to a particular Unit Holder, such as indemnification with respect to representations and warranties given by a Unit Holder regarding such Unit Holder’s title to and ownership of securities, in respect of which only such Unit Holder will be liable). Each Participating Seller hereby grants to the Majority a power-of-attorney to sign any and all agreements and instruments that are being executed in connection with a Tag Along Transfer pursuant to Section 12.1 or a Drag Along Sale or Sale of the Company (or a sale of a Company Subsidiary) pursuant to Section 12.2 and that are in accordance with the provisions of this Section 12.3(a) on behalf of such Participating Seller in its capacity as a Unit Holder of the Company. In connection with any Tag Along Transfer or Drag Along Sale or Sale of the Company (or a sale of a Company Subsidiary) required by this Article 12, (i) each Participating Seller appoints the Majority or its designee as its representative to make all decisions in connection with any sale agreement (including the right to resolve any potential indemnification claims or other disputes on behalf of all Unit Holders) and (ii) each Participating Seller hereby grants to the Majority and its designee an irrevocable proxy coupled with an interest to vote its, his or her Units (which proxy will be valid and remain in effect until the provisions of this Section 12.3(a) expire pursuant to Section

12.3(d)) in connection with, or in furtherance of, the exercise by the Majority of its rights under Section 12.2. The Majority may pursue any and all rights and remedies it may have to enforce the obligations of the Participating Sellers under Section 12.3, including seeking specific performance and/or immediate injunctive or other equitable relief from any court of competent jurisdiction (without the necessity of showing actual money damages, or posting any bond or other security) in order to enforce or prevent any violation of the provisions of Section 12.3.

(b) *Process.* The relevant Founder, or the Majority, as the case may be, will, in its or their sole discretion, decide whether or not to pursue, consummate, postpone or abandon any Tag Along Transfer or Drag Along Sale and the terms and conditions thereof. Neither a Founder, the Majority nor any of their Affiliates will have any liability to any other holder of Units arising from, relating to or in connection with the pursuit, consummation, postponement, abandonment or terms and conditions of any Tag Along Transfer or Drag Along Sale except to the extent a Founder or the Majority will have failed to comply with the provisions of this Article 12.

(c) *Expenses.* All reasonable costs and expenses incurred by a Founder or the Majority or the Company in connection with any proposed Tag Along Transfer or Drag Along Sale pursuant to this Article 12 (whether or not consummated) including all attorneys' fees and expenses, all accounting fees and charges and all finders, brokerage or investment banking fees, charges or commissions, will be either (i) borne by the Unit Holders based upon each such Unit Holder's pro rata share such that proceeds from any Transfer or Sale of the Company (or a sale of a Company Subsidiary) will be distributed as if they had been distributed after giving effect to such costs and expenses or (ii) paid by the Company or its Subsidiaries as determined by the Board of Managers in its discretion. The reasonable fees and expenses of a single legal counsel representing any or all of the other Participating Sellers in connection with cooperating with and/or consummating any proposed Tag Along Transfer or Drag Along Sale pursuant to this Article 12 (whether or not consummated) will be paid by the Company or its Subsidiaries. Any other costs and expenses incurred by or on behalf of any or all of the other Participating Sellers in connection with cooperating with and/or consummating any proposed Tag Along Transfer or Drag Along Sale pursuant to this Article 12 (whether or not consummated) will be borne by such Participating Sellers.

(d) *Closing.* The closing of a Transfer or Sale of the Company (or a sale of a Company Subsidiary) to which Section 12.1 or 12.2 applies will take place at such time and place as a Founder or the Majority, as the case may be, specifies by notice to each Participating Seller. At the closing of such Tag Along Transfer or Drag Along Sale, each Participating Seller will, if applicable, deliver the certificates evidencing the Units to be Transferred by such Participating Seller, duly endorsed for transfer with signature guaranteed, free and clear of any liens or encumbrances, with any necessary transfer tax stamps affixed, against delivery of the applicable consideration.

### 13. PRE-EMPTIVE RIGHTS.

13.1 Pre-emptive Rights. The Company will not issue or sell any Units or other equity interests to any Person (each an “Issuance” of “Subject Securities”), except in compliance with the provisions of this Article 13.

13.2 Participation Notice. Not fewer than 10 business days prior to the consummation of the Issuance, a written notice (the “Participation Notice”) will be given by the Company to each Unit Holder which holds Class A Units and is not an Excluded Unit Holder. The Participation Notice will include:

(a) The principal terms of the proposed Issuance, including: (i) the amount and kind of Subject Securities to be included in the Issuance, (ii) the number of Subject Securities, (iii) the price per unit of the Subject Securities, (iv) the portion of the Issuance equal to the number of Class A Units held by such holder immediately prior to the Issuance divided by the aggregate number of Class A Units outstanding immediately prior to the Issuance (the “Participation Portion”) and (v) the name and address of each Person to whom the Subject Securities are proposed to be issued (each a “Prospective Subscriber”); and

(b) An offer by the Company to issue or cause to be issued, at the option of each holder of Units to which a Participation Notice is required to be given, to such holder such portion of the Subject Securities to be included in the Issuance as may be requested by such holder (not to exceed the Participation Portion of the total amount of Subject Securities to be included in the Issuance), at the same price and otherwise on the same economic terms and conditions, with respect to each unit of Subject Securities issued to such holders of Units, as the issuance to each of the Prospective Subscribers; provided that, if all holders of Units entitled to purchase or receive any class or series of Subject Securities are required to also purchase any other class or series of Subject Securities, the Prospective Subscribers exercising their rights pursuant to this Article 13 will also be required to purchase the same strip of securities (on the same terms and conditions) that such other holders of Units are required to purchase.

13.3 Participation Commitment. Each holder of Units desiring to accept the offer contained in the Participation Notice will send an irrevocable commitment (each, a “Participation Commitment”) to the Company within 10 business days after the effectiveness (in accordance with Section 13.2) of the Participation Notice specifying the number (not in any event to exceed the product of the Participation Portion multiplied by the aggregated number of securities in the Issuance) or proportion (not in any event to exceed the Participation Portion) of Subject Securities which such holder desires to be issued (each, a “Participating Buyer”). Each holder of Units which has not so accepted such offer, or that does not comply with Section 13.6, will be deemed to have waived all of such holder’s rights with respect to the Issuance under this Article 13, and the Company will thereafter be free to issue the Subject Securities in such Issuance to the Prospective Subscribers and any Participating Buyers at a price not less than 95% of the price set forth in the Participation Notice, without any further obligation to such non-accepting holders under this Article 13. If, prior to consummation, the terms of such proposed Issuance will change with the result that the price will be less than 95% of the price set forth in the Participation Notice, it will

be necessary for a separate Participation Notice to be furnished, and the terms and provisions of this Article 13 separately complied with, in order to consummate such Issuance pursuant to this Article 13; provided, however, that in the case of such a separate Participation Notice, each applicable period to which reference is made in this Article 13 will be the longer of (a) the remaining portion of the 10 business day period applicable to the first Participation Notice distributed in connection with such proposed Issuance or (b) five business days.

13.4 Acceptance. The Participation Commitment of each Participating Buyer will be irrevocable except as hereinafter provided, and each such Participating Buyer will be bound and obligated to acquire in the Issuance on the same economic terms and conditions as the Prospective Subscribers, with respect to each share of Subject Securities issued, such number or proportion of Subject Securities as such Participating Buyer will have specified in such Participating Buyer's Participation Commitment.

13.5 Failure to Consummate. If at the end of the 120<sup>th</sup> day following the date of the effectiveness (in accordance with Section 13.2) of the Participation Notice the Company has not completed the Issuance on the terms and conditions specified in such Participation Notice, each Participating Buyer will be released from its obligations under such Participating Buyer's Participation Commitment, the Participation Notice will be null and void, and it will be necessary for a separate Participation Notice to be furnished, and the terms and provisions of this Article 13 separately complied with, in order to consummate any Issuance subject to this Article 13.

13.6 Cooperation. Each holder of Units, whether in his, her or its capacity as a Participating Buyer, officer or Board Member of the Company, or otherwise, will take or cause to be taken all such reasonable actions as may be necessary, reasonably desirable or otherwise requested by the Company in order expeditiously to consummate each Issuance pursuant to this Article 13 and any related transactions, including executing, acknowledging and delivering consents, assignments, waivers and other documents or instruments, filing applications, reports, returns, filings and other documents or instruments with governmental authorities, and otherwise cooperating with the Company, the Prospective Subscribers and the Participating Buyers (if any).

13.7 Closing. The closing of an Issuance pursuant to this Article 13 will take place at such time and place as the Company will specify by notice to each Participating Buyer in accordance with Section 19.3. At the closing of any Issuance under this Article 13, each Participating Buyer will be delivered the certificates or other instruments, if any, evidencing the Subject Securities to be issued to such Participating Buyer, registered in the name of such Participating Buyer or his, her or its designated nominee, free and clear of any liens or encumbrances, with any transfer tax stamps affixed, against delivery by such Participating Buyer of the applicable consideration.

13.8 Exceptions. Notwithstanding the foregoing, the Company may proceed with any Issuance prior to having complied with the provisions of Section 13.2; provided that the Company will provide to each holder of Units who would have been entitled to be given a Participation Notice in connection with such Issuance (i) with prompt notice of such Issuance and (ii) the Participation Notice described in Section 13.2 in which the actual price per share of Subject Securities will be set forth; and include in the subscription (or similar) agreement with the purchaser(s) of the Subject Securities a provision permitting the Company to repurchase such

securities, for a purchase price equal to the amount paid for such securities, in an amount necessary to satisfy the offers made by holders of Units in accordance with the provisions of Section 13.3 in response to the Participation Notice furnished pursuant to this Section 13.8.

13.9 Acknowledgment of Excluded Issuances. The preceding provisions of this Article 13 will not apply to (a) the Issuance by the Company of Units prior to January 1, 2019, (b) the Issuance by the Company of any Units or other equity interests in connection with any business combination or acquisition transaction involving the Company or any of its Subsidiaries or in connection with any joint venture or strategic partnership, provided that such Units or other equity interests are used as acquisition currency and not as a capital raising transaction in anticipation of, or in connection with, such business combination, acquisition, joint venture, or strategic partnership, (c) the Issuance by the Company of any Units or other equity interests in connection with any Public Offering, (d) the Issuance by the Company of any Units or other equity interests as a bona fide “equity kicker” to a lender in connection with a debt financing that has been approved in accordance with this Agreement, (e) the Issuance by the Company of Units or other equity interests to any employee, officer, director, or manager of the Company or any of its Subsidiaries and approved by the Board of Managers and any employee, officer, director, or manager incentive equity approved by the Board of Managers, and (f) any pro rata Issuance by the Company of any Units or other equity interests in connection with any unit split, unit distribution or similar recapitalization.

13.10 No Application to Class P Units, Etc. Notwithstanding anything in this Agreement to the contrary, the preceding provisions of this Article 13 will not apply to (a) any Unit Holder who holds Class P Units (only in respect of such Class P Units and not with respect to any other class of Units), (b) any Excluded Unit Holder, and (c) the issuance by the Company of any Class P Units.

## **14. DISSOLUTION OF COMPANY.**

14.1 Termination of Membership. No Unit Holder will resign or withdraw from the Company except that, subject to the restrictions set forth in Article 11, any Unit Holder may Transfer its Interest in the Company to a transferee and a transferee may become a Unit Holder in place of the Unit Holder assigning such Interest. The death, retirement, resignation, expulsion, bankruptcy or dissolution of any Unit Holder or the occurrence of any other event that terminates the continued membership of any Unit Holder will not in and of itself cause the Company to be dissolved or its affairs to be wound up, and upon the occurrence of any such event, the Company will be continued without dissolution.

14.2 Events of Dissolution. The Company will be dissolved upon the happening of any of the following events: (a) the entry of a decree of judicial dissolution under the Act, (b) the determination of the Board of Managers, (c) the sale, exchange, involuntary conversion, or other disposition or Transfer of all of the Company’s assets or (d) the termination of the legal existence of the last remaining Member or the occurrence of any other event which terminates the continued membership of the last remaining Member unless the business of the Company is continued in a manner permitted by this Agreement or the Act.

14.3 Liquidation.

(a) Upon dissolution of the Company for any reason, the Company will immediately commence to wind up its affairs. A reasonable period of time will be allowed for the orderly termination of the Company's business, discharge of its liabilities, and distribution or liquidation of its remaining assets so as to enable the Company to minimize the normal losses attendant to the liquidation process. The Company's property and assets or the proceeds from the liquidation thereof will be distributed so as not to contravene the Act and will be otherwise distributed to the Unit Holders as set forth in Section 5.1(b). A full accounting of the assets and liabilities of the Company will be taken and a statement thereof will be furnished to each Member promptly after the distribution of all of the assets of the Company. Such accounting and statements will be prepared under the direction of the Board of Managers.

(b) Any non-cash assets will first be written up or down to their Fair Value, thus creating Net Profit or Net Loss (if any), which will be allocated in accordance with Article 5. After taking into account such allocations, it is anticipated that each Unit Holder's Capital Account will be equal to the amount to be distributed to such Unit Holder pursuant to this Section 14.3.

(c) If any Unit Holder's Capital Account is not equal to the amount to be distributed to such Unit Holder pursuant to this Section 14.3, Net Profits and Net Losses (or the component parts thereof) for the Fiscal Year in which the Company is dissolved will be allocated among the Unit Holders in such a manner as to cause, to the extent possible, each Unit Holder's Capital Account to be equal to the amount to be distributed to such Unit Holder pursuant to this Section 14.3.

(d) Upon the completion of the winding up of the Company, the Managers shall file or cause to be filed a certificate of cancellation in accordance with the Act.

14.4 No Action for Dissolution. The Unit Holders acknowledge that irreparable damage would be done to the goodwill and reputation of the Company if any Unit Holder should bring an action in court to dissolve the Company under circumstances where dissolution is not required by Section 14.2. This Agreement has been drawn carefully to provide fair treatment of all parties and equitable payment in liquidation of the Interests of all Unit Holders. Accordingly, except where the Board of Managers has failed to liquidate the Company as required by Section 14.3 and except as specifically provided in the Act, each Unit Holder hereby waives and renounces its right to initiate legal action to seek dissolution or to seek the appointment of a receiver or trustee to liquidate the Company.

14.5 No Further Claim. Upon dissolution, each Unit Holder will have recourse solely to the assets of the Company for the return of such Unit Holder's capital Contributions, and if the Company's property remaining after payment or discharge of the debts and liabilities of the Company, including debts and liabilities owed to one or more of the Unit Holders, is insufficient to return the aggregate Capital Contributions of each Unit Holder, such Unit Holder will have no recourse against the Company, the Board of Managers or any other Unit Holder.

## 15. INDEMNIFICATION.

15.1 Limitation of Liability. The Members' and Managers respective obligations to each other are limited to the express obligations described in this Agreement, which obligations the Members and Managers shall carry out with ordinary prudence and in a manner characteristic of businesspersons in similar circumstances. No Member or Manager shall be a fiduciary of, or have any fiduciary obligations to, the other Members or Managers in connection with the Company, this Agreement, or such Member's or Manager's performance of its obligations under this Agreement; and each Member hereby waives to the fullest extent permitted by applicable law any rights it may have to claim any breach of fiduciary obligation under this Agreement or in connection with the Company.

### 15.2 Indemnification Rights.

(a) *General.* To the fullest extent permitted by law, the Company will indemnify, defend and hold harmless each member of the Board of Managers, each officer of the Company, the Tax Matters Representative and each of their respective Affiliates (all indemnified persons being referred to as "Indemnified Persons" for purposes of this Article 15), from any liability, loss or damage incurred by the Indemnified Person by reason of any act performed or omitted to be performed by the Indemnified Person in connection with the business of the Company and from liabilities or obligations of the Company imposed on such Person by virtue of such Person's position with the Company, including reasonable attorneys' fees and costs and any amounts expended in the settlement of any such claims of liability, loss or damage; provided, however, that, if the liability, loss, damage, or claim arises out of any action or inaction of an Indemnified Person, indemnification under this Section 15.1 will be available only if such action or inaction was not expressly prohibited by this Agreement and the action or inaction did not constitute knowing and intentional fraud by the Indemnified Person. The Company will advance the full amount of expenses (including reasonable attorneys' fees of an Indemnified Person) as incurred by such Indemnified Person and will be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement to the extent legally permitted and as required by the terms of this Agreement, provided that such Indemnified Person executes an undertaking to repay the amount so paid or reimbursed in the event that a final non-appealable determination by a court of competent jurisdiction finds that such Indemnified Person is not entitled to indemnification under this Article 15. The Company may pay for insurance covering liability of the Indemnified Persons in connection with the Company's and its Subsidiaries' affairs.

(b) *Exculpation.* No Indemnified Person will be liable, in damages or otherwise, to the Company or to any Unit Holder for any loss that arises out of any act performed or omitted to be performed by it, him or her in good faith pursuant to the authority granted by this Agreement.

(c) *Persons Entitled to Indemnity.* Any Person who is within the definition of "Indemnified Person" at the time of any action or inaction in connection with the business of the Company will be entitled to the benefits of this Article 15 as an "Indemnified Person" with respect thereto, regardless of whether such Person continues to be within the definition

of “Indemnified Person” at the time of such Indemnified Person’s claim for indemnification or exculpation hereunder. The right to indemnification and the advancement of expenses conferred in this Article 15 will not be exclusive of any other right which any Person may have or hereafter acquire under any statute, agreement, by law, vote of the Board of Managers or otherwise. If this Article 15 or any portion hereof is invalidated on any ground by any court of competent jurisdiction, then the Company will nevertheless indemnify and hold harmless each Indemnified Person pursuant to this Article 15 to the fullest extent permitted by any applicable portion of this Article 15 that has not been invalidated and to the fullest extent permitted by applicable law.

(d) *Procedure Agreements.* The Company may enter into an agreement with any of its officers, employees, consultants, counsel and agents, or the Board Members, setting forth procedures consistent with applicable law for implementing the indemnities provided in this Article 15.

15.3 Interested Transactions. The Board of Managers may cause the Company or any Subsidiary thereof to enter into any contracts or transactions with Affiliates (including contracts or transactions between the Company or its Subsidiaries and one or more Board Members or officers and contracts or transactions between the Company or its Subsidiaries and any entity in which one or more Board Members are directors or officers or have a financial interest). To the fullest extent permitted by law and notwithstanding anything to the contrary in this Agreement, at law or in equity, no Board Member will be deemed to have breached any duty (fiduciary or otherwise) to the Company, the Unit Holders or any other Person, and no such Board Member will be liable to the Company, the Unit Holders or any other Person for breach of any duty (of loyalty or analogous duty) with respect to any action or inaction in connection with or relating to any transaction between the Company or any Subsidiary thereof with or any Affiliates. No contract or transaction between the Company or any of its Subsidiaries and one or more of the Board Members or officers, or between the Company or any of its Subsidiaries and any other entity in which one or more of the Board Members or officers are directors or officers, or have a financial interest, will be void or voidable solely for this reason, or solely because such Board Member or officer is present at or participates in the meeting of the Board of Managers or committee which authorizes the contract or transaction, or solely because his, her or their votes are counted for such purpose.

15.4 Reliance, etc.

(a) Notwithstanding any other provision of this Agreement, an Indemnified Person acting under this Agreement will not be liable to the Company or to any other Indemnified Person for its, his or her good faith reliance on the provisions of this Agreement. The provisions of this Agreement, to the extent that they restrict or eliminate the duties (including fiduciary duties) and liabilities of an Indemnified Person otherwise existing at law or in equity, are agreed by the Company and each Unit Holder to replace such other duties and liabilities of such Indemnified Person. No Indemnified Person will have any fiduciary duties to the Company or any Unit Holder, and will otherwise not have any obligations other than such obligations as specifically provided by this Agreement.

(b) Notwithstanding any other provision of this Agreement or otherwise applicable law, whenever in this Agreement an Indemnified Person is permitted or required

to make a decision (i) in its, his or her discretion or under a grant of similar authority, the Indemnified Person will be entitled to consider only such interests and factors as such Indemnified Person desires, including its, his or her own and its, his or her Affiliates' interests, and will, to the fullest extent permitted by applicable law, have no duty or obligation to give any consideration to any interest of or factors affecting the Company, any Unit Holder or any other Person, or (ii) in its, his or her good faith or under another express standard, the Indemnified Person will be entitled to act under such express standard and will not be subject to any other or different standards.

## **16. REPRESENTATIONS AND COVENANTS BY THE UNIT HOLDERS.**

Each Unit Holder hereby represents and warrants to, and agrees with, the Board of Managers, severally and not jointly and solely on its own behalf, as follows:

16.1 Investment Intent. Such Unit Holder is acquiring such Unit Holder's Interest with the intent of holding the same for investment for such Unit Holder's own account and without the intent or a view of participating directly or indirectly in any distribution of such Interests within the meaning of the Securities Act or any applicable state securities laws, or otherwise Transferring such Interests, in each case in violation of applicable law.

### **16.2 Securities Regulation.**

(a) Such Unit Holder acknowledges and agrees that such Unit Holder's Interest is being issued and sold in reliance on the exemption from registration under the Securities Act and exemptions contained in applicable state securities laws, and that such Unit Holder's Interest cannot and will not be sold or transferred except in a transaction that is exempt under the Securities Act and applicable state securities laws or pursuant to an effective registration statement under the Securities Act and applicable state securities laws.

(b) Except as otherwise set forth in this Agreement, such Unit Holder understands that such Unit Holder has no contractual right for the registration under the Securities Act of such Unit Holder's Interest for public sale and that, unless such Unit Holder's Interest is registered or an exemption from registration is available, such Unit Holder's Interests may be required to be held indefinitely.

(c) Such Unit Holder represents and warrants that such Unit Holder is not subject to any of the "Bad Actor" disqualifications described in Securities Act Rule 506(d)(1) subsections (i) through (viii).

16.3 Knowledge and Experience. Such Unit Holder is an "accredited investor" as defined in Rule 501(a) under the Securities Act, as amended by Section 413(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act, and such Unit Holder has such knowledge and experience in financial, tax and business matters as to enable such Unit Holder to evaluate the merits and risks of such Unit Holder's investment in the Company and to make an informed investment decision with respect thereto and such Unit Holder agrees that it will not take any action that could have an adverse effect on the availability of the exemption from registration provided by Rule 501 promulgated under the Securities Act with respect to the offer and sale of the Units.

16.4 Economic Risk. Such Unit Holder is able to bear the economic and financial risk of such Unit Holder's investment in such Unit Holder's Interest for an indefinite period of time, and such Unit Holder is aware that such Unit Holder may lose the entire amount of such Unit Holder's investment in the Company.

16.5 Binding Agreement. Such Unit Holder has all requisite power and authority to enter into and perform this Agreement. The execution, delivery and performance of this Agreement have been duly authorized by such Unit Holder and do not require such Member to obtain any consent or approval that has not been obtained and do not contravene or result in a default in any material respect under any provision of any law or regulation applicable to such Unit Holder or other governing documents or any agreement or instrument to which such Unit Holder is a party or by which such Unit Holder is bound. This Agreement is and will remain such Unit Holder's valid and binding agreement, enforceable in accordance with its terms (subject, as to the enforcement of remedies, to any applicable bankruptcy, insolvency or other laws affecting the enforcement of creditors' rights).

16.6 Tax Position. Such Unit Holder will not take a position on such Unit Holder's federal income tax return, in any claim for refund or in any administrative or legal proceedings that is inconsistent with this Agreement or with any information return filed by the Company.

16.7 Information. Such Unit Holder has received all documents, books and records pertaining to an investment in the Company requested by such Unit Holder. Such Unit Holder has had a reasonable opportunity to ask questions of and receive answers concerning the Company, and all such questions have been answered to such Unit Holder's satisfaction and the determination of such Unit Holder to acquire any Units pursuant to this Agreement has been made by such Unit Holder independent of any such answers given or other statements made by the Company, its Subsidiaries and their respective Affiliates and representatives.

16.8 Tax and Other Advice. Such Unit Holder has had the opportunity to consult with such Unit Holder's own tax and other advisors with respect to the consequences to such Unit Holder of the purchase, receipt, ownership and disposition of the Units, including the tax consequences under federal, state, local, and other income tax laws of the United States or any other country and the possible effects of changes in such tax laws. Such Unit Holder acknowledges that none of the Company, its Subsidiaries, Affiliates, successors, beneficiaries, heirs and assigns and its and their past and present directors, officers, employees, and agents (including their attorneys) makes or has made any representations or warranties to such Unit Holder regarding the consequences to such Unit Holder of the purchase, receipt, ownership and disposition of the Units, including the tax consequences under federal, state, local and other tax laws of the United States or any other country and the possible effects of changes in such tax laws.

16.9 Licenses and Permits. Such Unit Holder will cooperate in providing such information, in signing such documents and in taking any other action as may reasonably be requested by the Company in connection with obtaining any non-U.S., federal, state or local license or permit needed to operate its business or the business of any entity in which the Company invests.

16.10 Indemnities. Such Unit Holder agrees to indemnify and hold harmless the Company from and against all losses, damages, liabilities and expenses (including reasonable attorneys' fees and charges) resulting from any breach of any representation, warranty or agreement of such Unit Holder in this Agreement or any misrepresentation by such Unit Holder in this Agreement.

## **17. COMPANY REPRESENTATIONS.**

In order to induce the Members to enter into this Agreement and to make the Capital Contributions contemplated hereby, the Company hereby represents and warrants to each Unit Holder as follows:

17.1 Duly Formed. The Company is a duly formed and validly existing limited liability company under the Act, with all necessary power and authority under the Act to issue the Interests to be issued to the Members hereunder.

17.2 Valid Issue. When the Interests are issued to the Members as contemplated by this Agreement and the Capital Contributions required to be made by the Members, if any, are made, the Interests issued to the Members will be duly and validly issued and no liability for any additional capital contributions to the Company will attach thereto.

17.3 Binding Agreement. The Company has all requisite power and authority to enter into and perform this Agreement and this Agreement is and will remain the Company's valid and binding agreement, enforceable in accordance with its terms (subject, as to the enforcement of remedies, to any applicable bankruptcy, insolvency or other laws affecting the enforcement of creditors' rights).

## **18. AMENDMENTS TO AGREEMENT.**

18.1 Amendments. This Agreement may be modified or amended by written action of a majority of votes held by (A) the Board of Managers without the consent of any Member to (a) effect the issuance of additional Units and admission of additional Members, the acceptance of additional capital contributions and transfers of Units as otherwise permitted by this Agreement and (b) (i) to add to the duties or obligations of the Board or surrender any right granted to the Board herein; and (ii) to cure any ambiguity or correct or supplement any provision herein which may be inconsistent with any provision herein or to correct any printing, stenographic or clerical errors or omissions in order that this Agreement shall accurately reflect the agreement among the Members; provided that no amendment shall be made pursuant to this Section 18.1(A) unless the Board reasonably shall have determined that such amendment will not subject any Member to any material adverse economic consequences, alter or waive the right to receive allocations and distributions that otherwise would be made to any Member, or alter or waive in any material respect the duties or obligations of the Board to the Company or the Members. and (B) by the Board of Managers with the written consent of the Majority, that (a) an amendment or modification that would affect any class of Units in a manner materially adverse to any other class of Units in existence immediately prior to such amendment will be effective against the holders of that class of Units so materially adversely affected only with the prior written consent of the holders, not to be unreasonably withheld or delayed, of at least a majority of such class of Units (it being

understood and agreed that any increase in the number of authorized or issued Units or Interests or the number of Units or Interests available for issuance and the issuance of additional Units or Interests in accordance with the provisions of this Agreement (including any resulting dilution or subordination) will not be deemed to materially adversely affect other Units and therefore will not require a separate vote of any other Unit Holders), (b) no amendment will alter or modify Section 6.1, to the extent that such amendment alters or modifies the limited liability of any Unit Holder, without the consent of such Unit Holder, and (c) no amendment will require any Unit Holder to make additional Capital Contributions to the Company without the consent of such Unit Holder. Notwithstanding the foregoing, none of the foregoing provisos will prohibit any amendments to any provision of this Agreement to the extent necessary to create, authorize or issue any equity or other securities, including in accordance with Section 3.5, and if Article 13 is applicable to any such issuance, so long as such issuance is done in compliance with Article 13 hereof.

18.2 Corresponding Amendment of Certificate. The Board of Managers will cause to be prepared and filed any amendment to the Certificate that may be required to be filed under the Act as a consequence of any amendment to this Agreement.

18.3 Binding Effect. Any modification or amendment to this Agreement pursuant to this Article 18 will be binding on all Unit Holders.

## **19. GENERAL.**

### 19.1 Conversion to Corporation.

(a) The Board of Managers (subject to any rights granted to the Majority in Article 12) shall have the power and authority to effect the conversion of the Company's business form from a limited liability company to a corporation ("NewCo"), including in connection with a Public Offering undertaken pursuant to the decision of the Board of Managers, whether by merger, statutory conversion, a tax-free contribution under Code Section 351 or by such other form of transaction as may be available under applicable law (the "Conversion"). In connection with a Conversion effected by the Board of Managers in accordance with this Section 19.1, each Unit Holder hereby covenants and agrees to take any and all such action and execute and deliver any and all such instruments and other documents as the Board of Managers may reasonably request in order to effect or evidence such Conversion, including executing any holdback, lockup or similar agreement requested in connection with a Public Offering. To the extent such Conversion is effected in connection with a Public Offering, each Unit Holder hereby agrees to cooperate in all respects to effectuate the Public Offering.

(b) The Unit Holders acknowledge that the Company may effect a Conversion in the discretion of the Board of Managers. It is the intent of the Unit Holders that the Conversion is part of the Unit Holder's investment decision with respect to the Units. All Unit Holders will work together in good faith to accomplish the Conversion in the most tax-advantageous manner reasonably available. Without limiting the generality of the foregoing, no Unit Holder shall have or be entitled to exercise any dissenters' rights, appraisal rights or other similar rights in connection with any such Conversion. Upon any such Conversion, the terms of this Agreement and all of the parties' rights and obligations

hereunder with respect to their Units and other rights hereunder shall terminate, except for the provisions of Article 15, which shall survive such Conversion.

(c) Immediately prior to the Conversion, the Board of Managers will determine the aggregate value of the Units (the “Pre-Conversion Company Value”) based on the Fair Market Value of the Company as determined by the Board of Managers in good faith. The Pre-Conversion Company Value divided by the number of shares of common stock to be issued in the Conversion (assuming the exercise of all rights, options and warrants to purchase common stock, and the conversion or exchange into common stock of all convertible or exchangeable securities) shall be the “Per Share Conversion Price”. Upon such Conversion, each Unit will be converted into a number of shares of common stock determined by dividing (i) the amount that would be distributed in respect of such Unit if all assets of the Company were sold for cash equal to the Pre-Conversion Company Value and the proceeds were distributed in accordance with Section 5.1 by (ii) the Per Share Conversion Price; provided that, shares of common stock of NewCo received in respect of the Units will have substantially the same vesting and other terms and restrictions then in effect with respect to such Units.

19.2 Successors; Massachusetts Law; Etc. This Agreement: (a) will be binding upon the executors, administrators, estates, heirs, permitted assigns and legal successors of the Unit Holders and (b) will be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts without giving effect to any choice of law or conflict of law, rules or provisions.

19.3 Notices, Etc. All notices and other communications required or permitted hereunder will be in writing and will be deemed effectively given upon personal delivery or receipt (which may be evidenced by a return receipt if sent by certified mail or by signature if delivered by courier or delivery service), addressed (a) if to any Unit Holder, at the address of such Unit Holder on file with the Company (including any e-mail address) or at such other address (including any e-mail address) as such Unit Holder will have furnished to the Company in writing as the address to which notices are to be sent hereunder and (b) if to the Company or to the Board of Managers to it at (including any e-mail address):

If to the Company:

Cultivauna, LLC  
26 Donovans Way  
Middleton, MA 01949  
Attention: Kristin Rogers  
Title: Manager  
Phone: 617-529-6081

19.4 Execution of Documents. From time to time after the date of this Agreement, upon the reasonable request of the Board of Managers, each Unit Holder will perform, or cause to be performed, all such additional acts, and will execute and deliver, or cause to be executed and delivered, all such additional instruments and documents, as may be determined by the Board of Managers to be necessary or appropriate to effectuate the purposes of this Agreement. Each Unit

Holder, including each new and substituted Unit Holder, by the execution of this Agreement or by agreeing in writing to be bound by this Agreement, irrevocably constitutes and appoints the Board of Managers or any Person designated by the Board of Managers to act on such Unit Holder's behalf for purposes of this Section 19.4 as such Unit Holder's true and lawful attorney-in-fact with full power and authority in such Unit Holder's name and stead to execute, deliver, swear to, file and record at the appropriate public offices such documents as may be necessary or appropriate to carry out this Agreement, including:

- (a) all certificates and other instruments (specifically including counterparts of this Agreement), and any amendment thereof, that the Board of Managers deems appropriate to qualify or to continue the Company as a limited liability company in any jurisdiction in which the Company may conduct business or in which such qualification or continuation is, in the opinion of the Board of Managers, necessary to protect the limited liability of the Unit Holders;
- (b) all amendments to this Agreement adopted in accordance with the terms hereof and all instruments that the Board of Managers deems appropriate to reflect a change or modification of the Company in accordance with the terms of this Agreement; and
- (c) all conveyances and other instruments that the Board of Managers deems appropriate to reflect the dissolution of the Company.

The appointment of each Board Member as such Unit Holder's attorney-in-fact to act on its behalf for purposes of this Section 19.4 will be deemed to be a power coupled with an interest, in recognition of the fact that each of the Unit Holders under this Agreement will be relying upon the power of the Board of Managers to act as contemplated by this Agreement in any filing and other action by him, her or it on behalf of the Company in accordance with the foregoing, and will survive the bankruptcy, dissolution, death, adjudication of incompetence or insanity of any Unit Holder giving such power and the transfer or assignment of all or any part of such Unit Holder's Interests; provided, however, that in the event of a Transfer by a Unit Holder of all of its Interest, the power of attorney given by the transferor will survive such assignment only until such time as the transferee will have been admitted to the Company as a substituted Unit Holder and all required documents and instruments have been duly executed, filed, and recorded to effect such substitution.

19.5 Consent to Jurisdiction and Service of Process. The parties irrevocably consent to the jurisdiction and venue of the state and federal courts located in Massachusetts in connection with any action relating to this Agreement and agree that service of summons, complaint or other process in connection with any such action may be made as set forth in Section 19.3 and that service so made will be as effective as if personally made in the Commonwealth of Massachusetts.

19.6 Severability. If any provision of this Agreement is determined by a court to be invalid or unenforceable, that determination will not affect the other provisions hereof, each of which will be construed and enforced as if the invalid or unenforceable portion were not contained herein. Such invalidity or unenforceability will not affect any valid and enforceable application thereof, and each such provision will be deemed to be effective, operative, made, entered into or taken in the manner and to the full extent permitted by law.

19.7 Construction. In the event an ambiguity or question of intent or interpretation arises, this Agreement will be construed as if drafted jointly by the parties hereto, the principle of contra proferentum will not apply to this Agreement and no presumption or burden of proof will arise favoring or disfavoring any party hereto by virtue of the authorship of any of the provisions of this Agreement.

19.8 Table of Contents, Headings. The table of contents and headings used in this Agreement are used for administrative convenience only and do not constitute substantive matter to be considered in construing this Agreement.

19.9 No Third Party Rights. Except as expressly provided herein, the provisions of this Agreement are solely for the benefit of the Company, the Board of Managers and the Unit Holders and no other Person, including creditors of the Company, will have any right or claim against the Company, the Board of Managers or any Unit Holder by reason of this Agreement or any provision hereof or be entitled to enforce any provision of this Agreement.

19.10 Entire Agreement. This Agreement, each Unit Holder's respective purchase agreement, subscription agreement or unit certificate, as applicable, and the other agreements contemplated hereby and thereby constitute the entire agreement of the Unit Holders and their Affiliates relating to the Company and supersede all prior meetings, communications, representations, negotiations, contracts or agreements (including any prior drafts thereof) with respect to the Company, whether oral or written, none of which will be used as evidence of the parties' intent. In addition, each party hereto acknowledges and agrees that all prior drafts of this Agreement contain attorney work product and will in all respects be subject to the foregoing sentence.

19.11 Effect of Waiver or Consent. A waiver or consent, express or implied, to or of any breach or default by any Person in the performance by that Person of its obligations with respect to the Company is not a consent or waiver to or of any other breach or default in the performance by that Person of the same or any other obligations of that Person with respect to the Company. Failure on the part of a Person to complain of any act of any Person or to declare any Person in default with respect to the Company, irrespective of how long that failure continues, does not constitute a waiver by that Person of its rights with respect to that default until the applicable statute-of-limitations period has run.

19.12 Counterparts; PDFs and Facsimile. This Agreement may be executed in multiple counterparts with the same effect as if all signing parties had signed the same document. All counterparts will be construed together and constitute the same instrument. This Agreement, each Unit Holder's respective purchase agreement, subscription agreement or unit certificate, as applicable, and the other agreements contemplated hereby and thereby, and any amendments hereto or thereto, to the extent signed and delivered by means of a PDF or facsimile machine, will be treated in all manner and respects as an original agreement or instrument and will be considered to have the same binding legal effect as if it were the original signed version thereof delivered in person. At the request of any party hereto or to any such agreement or instrument, each other party hereto or thereto will re-execute original forms thereof and deliver them to all other parties. No party hereto or to any such agreement or instrument will raise the use of a PDF or facsimile machine to deliver a signature or the fact that any signature or agreement or instrument was

transmitted or communicated through the use of a PDF or facsimile machine as a defense to the formation or enforceability of a contract and each such party forever waives any such defense.

19.13 Waiver of Jury Trial. THE UNIT HOLDERS WAIVE THEIR RESPECTIVE RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT OR ANY DEALINGS BETWEEN THEM RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT AND THE RELATIONSHIP THAT IS BEING ESTABLISHED. The Unit Holders also waive any bond or surety or security upon such bond which might, but for this waiver, be required of any of the other parties. The scope of this waiver is intended to be all-encompassing of any and all disputes that may be filed in any court and that relate to the subject matter of this Agreement, including contract claims, tort claims, breach of duty claims, and all other common law and statutory claims. The Unit Holders acknowledge that this waiver is a material inducement to enter into a business relationship, that each has already relied on the waiver in entering into this Agreement, and that each will continue to rely on the waiver in their related future dealings. The Unit Holders further warrant and represent that each has reviewed this waiver with its, his or her, as the case may be, legal counsel, and that each knowingly and voluntarily waives its, his or her, as the case may be, jury trial rights following consultation with legal counsel. This waiver is irrevocable, meaning that it may not be modified either orally or in writing, and the waiver will apply to any subsequent amendments, renewals, supplements or modifications to this Agreement or to any other documents or agreements relating to the transactions completed hereby. In the event of litigation, this Agreement may be filed as a written consent to a trial by the court.

19.14 Offset. Whenever the Company is to pay any sum to any Unit Holder, any amounts that such Unit Holder owes to the Company or any of its Subsidiaries may be deducted from that sum before payment and the amount of such sum deducted will nonetheless be treated as paid to such Unit Holder.

19.15 Adjustment of Numbers. Subject to Section 19.1, all numbers set forth herein that refer to Unit prices or amounts will be appropriately adjusted by the Board of Managers in good faith to reflect Unit splits, Unit dividends, combinations of Units and other recapitalizations affecting the subject class of equity.

19.16 Business Days. If any time period for giving notice or taking action hereunder expires on a day which is a Saturday, Sunday, or legal holiday in the Commonwealth of Massachusetts or the State of New York, or the jurisdiction in which the Company's principal office is located, the time period will automatically be extended to the business day immediately following such Saturday, Sunday, or legal holiday.

19.17 Survival. Section 5.3, Section 6.1, Section 9.5, Section 10.2, and Article 15 will survive and continue in full force in accordance with their terms notwithstanding any termination of this Agreement or the dissolution of the Company.

19.18 Wills. Each Unit Holder who is a natural person agrees to execute a will which will contain a direction and authorization to his or her personal representative, executor or administrator to comply with the provisions of this Agreement and to sell his or her Units, as the

case may be, in accordance with this Agreement; provided, however, that the failure of any such Unit Holder to do so will not affect the validity or enforceability of this Agreement.

19.19 Spousal Consent. If requested by the Board of Managers, each married Unit Holder, and each such Unit Holder who, subsequent to the date hereof, marries or remarries, will concurrently with his or her execution hereof deliver to the Board of Managers the written consent of his or her spouse; provided, however, that the failure of any such Unit Holder to do so will not affect the validity or enforceability of this Agreement.

\* \* \* \* \*

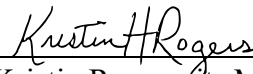
IN WITNESS WHEREOF, the undersigned, intending to be legally bound hereby, has duly executed this Amended and Restated Limited Liability Company Agreement of CULTIVAUNA, LLC as of the date and year first above written.

**THE COMPANY:**

**CULTIVUANA, LLC**

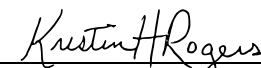
**Board of Managers**

  
\_\_\_\_\_  
Kaitlyn Brosnan, its Manager

  
\_\_\_\_\_  
Kristin Rogers, its Manager

**CLASS A FOUNDER MEMBERS:**

  
\_\_\_\_\_  
Kaitlyn Brosnan, Member

  
\_\_\_\_\_  
Kristin Rogers, Member

RESTATED AND REVISED SCHEDULE I

UNIT HOLDERS OF THE COMPANY<sup>1/</sup>

<b>Class A Unit Holder</b>	<b>Class A Units</b>	<b>Cash Capital Contributions<sup>2/</sup></b>
Kaitlyn Brosnan	98,000 Class A Units	\$91,440
Kristin Rogers	102,000 Class A Units	\$95,340

<b>Class P Unit Holder</b>	<b>Class P Units</b>	<b>Cash Capital Contributions</b>

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<sup>1/</sup> Reflects ownership and Capital Contributions as of May 1, 2020. Units to be issued in connection with private placement to be reflected at the time of closing with the offering price as of May 1, 2020 equal to \$100 per Unit.

<sup>2/</sup> Reflects Capital Contributions of Founders as of May 1, 2020. To be updated to reflect additional Capital Contributions which may be made by the Founders in their discretion., provided that such Capital Contributions (as opposed to purchase of Units on the same terms as other investors) made on or before December 31, 2020 will not change the number of Units held by the Founders.

RESTATED AND REVISED SCHEDULE II  
SUBSCRIPTION AGREEMENTS & CLASS A MEMBER SIGNATURE PAGES



THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF UNEMPLOYMENT ASSISTANCE

Charles D. Baker  
GOVERNOR

Karyn E. Polito  
LT. GOVERNOR



236378276

Rosalin Acosta  
SECRETARY

Richard A. Jeffers  
DIRECTOR

Cultivauna LLC  
26 DONOVAN'S WAY  
MIDDLETON, MA 01949

EAN: 22122915  
July 09, 2020

Certificate Id:39208

The Department of Unemployment Assistance certifies that as of 7/9/2020 ,Cultivauna LLC is current in all its obligations relating to contributions, payments in lieu of contributions, and the employer medical assistance contribution established in G.L.c.149,§189.

This certificate expires in 30 days from the date of issuance.

Richard A. Jeffers, Director

Department of Unemployment Assistance



## **MEMORDANDUM**

For: Cannabis Control Commission  
From: Cultivauna, LLC dba TINC (hereinafter “TINC”)  
Date: July 14, 2020  
Re: Amended and Restated LLC Agreement serves as Operating Agreement and “By-Laws” of the LLC

## **INTRODUCTION & STATEMENT**

This memorandum has been drafted to address and confirm that TINC’s Amended and Restated LLC Agreement dated May 1, 2020 (“LLC Agreement”) serves as Operating Agreement and “By-Laws” of the LLC. Traditionally the governing document of a limited liability company is referred to as an “Operating Agreement”. Further, the governing documents of a stock corporation are referred to as the “By-Laws”, which work comprehensively with any shareholder agreements or further corporate governance documents.

## **ANALYSIS & CONCLUSION**

For TINC, the governing document which governs both the company structure and governing processes of Cultivauna, LLC is the LLC Agreement. This document serves as both the governing document as it pertains to the powers and authorities of LLC management, as well as its investors. Therefore, the LLC Agreement serves as both an Operating Agreement and “By-Laws” for TINC.

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**The Commonwealth of Massachusetts**  
**William Francis Galvin**

Minimum Fee: \$100.00

Secretary of the Commonwealth, Corporations Division  
One Ashburton Place, 17th floor  
Boston, MA 02108-1512  
Telephone: (617) 727-9640

**Certificate of Amendment**

(General Laws, Chapter )

Identification Number: 001259069

The date of filing of the original certificate of organization: 2/2/2017

1.a. Exact name of the limited liability company: CULTIVAUNA, LLC

1.b. The exact name of the limited liability company *as amended*, is: CULTIVAUNA, LLC

**2a. Location of its principal office:**

No. and Street: 26 DONOVANS WAY  
City or Town: MIDDLETON State: MA Zip: 01949 Country: USA

**3. *As amended*, the general character of business, and if the limited liability company is organized to render professional service, the service to be rendered:**

RETAIL STORE-INTERNET SALES (INCLUDING INDEPENDENT SALES ON AN AUCTION SITE)  
AND ANY OTHER LAWFUL BUSINESS ACTIVITY PERMITTED BY THE MASSACHUSETTS LIMITED LIABILITY COMPANY ACT

**4. The latest date of dissolution, if specified:**

**5. Name and address of the Resident Agent:**

Name: ERIC JAY ROGERS  
No. and Street: 26 DONOVANS WAY  
City or Town: MIDDLETON State: MA Zip: 01949 Country: USA

**6. The name and business address of each manager, if any:**

Title	Individual Name First, Middle, Last, Suffix	Address (no PO Box) Address, City or Town, State, Zip Code
MANAGER	KAITLYN BROSNAN	26 DONOVANS WAY MIDDLETON, MA 01949 USA
MANAGER	KRISTIN ROGERS	26 DONOVANS WAY MIDDLETON, MA 01949 USA

**7. The name and business address of the person(s) in addition to the manager(s), authorized to execute documents to be filed with the Corporations Division, and at least one person shall be named if there are no managers.**

Title	Individual Name First, Middle, Last, Suffix	Address (no PO Box) Address, City or Town, State, Zip Code
SOC SIGNATORY	ERIC JAY ROGERS	26 DONOVANS WAY MIDDLETON, MA 01949 USA

SOC SIGNATORY

MATTHEW PETER MELANDER

26 DONOVANS WAY  
MIDDLETON, MA 01949 USA

**8. The name and business address of the person(s) authorized to execute, acknowledge, deliver and record any recordable instrument purporting to affect an interest in real property:**

<b>Title</b>	<b>Individual Name</b> First, Middle, Last, Suffix	<b>Address</b> (no PO Box) Address, City or Town, State, Zip Code
REAL PROPERTY	MATTHEW PETER MELANDER	26 DONOVANS WAY MIDDLETON, MA 01949 USA
REAL PROPERTY	ERIC JAY ROGERS	26 DONOVANS WAY MIDDLETON, MA 01949 USA

**9. Additional matters:**

**10. State the amendments to the certificate:**

REMOVE DOCUMENT SIGNATORY AND REAL ESTATE SIGNATORY UNDER SECTION 7 & 8 AND UPDATE LANGUAGE TO BUSINESS PURPOSE UNDER SECTION 3. ALL OTHER LLC INFORMATION SHALL REMAIN AS PREVIOUSLY AMENDED.

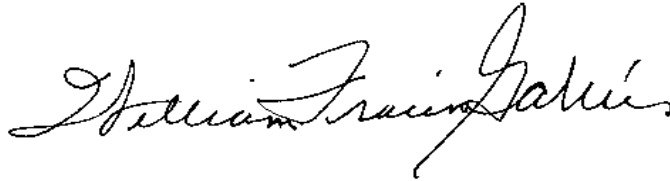
**11. The amendment certificate shall be effective when filed unless a later effective date is specified:**

**SIGNED UNDER THE PENALTIES OF PERJURY, this 15 Day of June, 2020,**  
**JOSEPH L. FURNARI JR. , Signature of Authorized Signatory.**

THE COMMONWEALTH OF MASSACHUSETTS

I hereby certify that, upon examination of this document, duly submitted to me, it appears that the provisions of the General Laws relative to corporations have been complied with, and I hereby approve said articles; and the filing fee having been paid, said articles are deemed to have been filed with me on:

June 15, 2020 11:32 AM

A handwritten signature in black ink, reading "William Francis Galvin". The signature is written in a cursive, flowing style with a large initial 'W' and 'G'.

WILLIAM FRANCIS GALVIN

*Secretary of the Commonwealth*



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## MEMORANDUM

For: Cannabis Control Commission  
From: Cultivauna, LLC dba TINC (hereinafter “TINC”)  
Date: July 14, 2020  
Re: TINC’s Control and Authority

### INTRODUCTION & ISSUE

This memorandum has been drafted to confirm that Ohya, LLC and Kathleen B Bruyette Trust are not Persons with Direct or Indirect Control as defined in 935 CMR 500.002. To do so, we will address and confirm TINC’s Board of Managers and its General and Voting Power under TINC’s Amended and Restated Limited Liability Company Agreement dated May 1, 2020. Further, this memorandum shall confirm that TINC’s Board of Managers shall retain such authority and control of the company under its current capital raise structure and disbursing equity in the LLC. Then, we will address Ohya, LLC and the Kathleen B Bruyette Trust’s relationship to TINC, which does not qualify as having Direct or Indirect Control.

### GOVERNANCE OF TINC

Pursuant to Article 7 of TINC’s Amended and Restated Limited Liability Company Agreement dated May 1, 2020 (“LLC Agreement”), which governs the designation of rights, authorities and powers of TINC’s Board of Managers, TINC’s current majority equity holders and Board of Managers remains as is currently stated.

Article 7.1 (a) of the LLC Agreement governs the establishment of the Board of Managers and states the following:

“

*(a) The overall management and control of the business and affairs of the Company will be vested in a Board of Managers (the “Board of Managers”) who may delegate the day to day management and control of the business and affairs of the Company to such officers and other employees or agents as they deem necessary or advisable as and to the extent provided in this Article 7. The Board of Managers will initially be comprised of*

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*Kristin Rogers and Kaitlyn Brosnan. Thereafter, the individuals constituting the Board of Managers will be determined in accordance with the provisions of Section 7.2. Section 7.2 sets forth the procedures for the conduct of the affairs of the Board of Managers. Subject to the provisions of this Agreement, the Board, acting by majority vote, shall have the full and complete authority, power and discretion to manage and control the business, affairs, and properties of the Company, to make all decisions regarding those matters and to perform any and all other acts or activities customary or incident to the management of the Company's business, and the Members shall have only the voting rights specifically provided in this Agreement or, if and to the extent not specified herein, the Act."*

Subsection 7.1(a) resolutely establishes the Board of Managers and authorizes the Board of Managers with the authority to act and control the company, and/or delegate others to act on behalf of the LLC.

Further, Article 7.2 (a) of the LLC Agreement states as follows:

“

*(a) Number; Appointment; Votes. Upon the effectiveness of this Agreement, the authorized number of members of the Board of Managers (each, a “Board Member”) will initially be two (2) Board Members, and will be comprised of Kristin Rogers and Kaitlyn Brosnan. Until a Founder's Threshold Date, each Manager, and, if applicable, each Unit Holder, shall cause such Founder to be elected as a Board Member, unless there is Cause, and such Founder may not be removed as a Board Member, except for Cause. The number of Board Members after the date hereof may be increased or decreased from time to time by a vote of a majority of the Board Members, provided that, until the Founder's Threshold Date the number of Managers constituting the full Board of Managers shall not be increased to more than three (3) without the prior written consent of any Founder who has not reached the Founder's Threshold Date."*

This subsection resolutely establishes that until the “Founder's Threshold Date”, which is defined in the LLC Agreement as “the first date following the date of this Agreement on which such Founder holds less than 25% of the total outstanding Class A Units”; the Board of Managers shall consist only of the Founder's, unless removed with cause. Also, the number of Board Members may ONLY be adjusted by a majority vote of the Board Members, unless and until a Board Member has reached its Founder's Threshold Date.

## **STANDARDS**

Persons or Entities Having Direct Control is defined as in 935 CMR 500.002 as:

any person or entity having direct control over the operations of a Marijuana Establishment, which satisfies one or more of the following criteria:

(a) An Owner that possesses a financial interest in the form of equity of 10% or greater in a Marijuana Establishment;

(b) A Person or Entity that possesses a voting interest of 10% or greater in a Marijuana Establishment or a right to veto significant events;

(c) A Close Associate;

(d) A Person or Entity that has the right to control or authority, through contract or otherwise including, but not limited to:

1. to make decisions regarding operations and strategic planning, capital allocations, acquisitions and divestments;
2. to appoint more than 50% of the directors;
3. to appoint or remove Corporate-level officers or their equivalent;
4. to make major marketing, production, and financial decisions;
5. to execute significant or exclusive contracts; or
6. to earn 10% or more of the profits or collect more than 10% of the dividends.

Ohya, LLC. and the Kathleen B. Bruyette Trust do not meet any of the qualifications provided for having Direct Control. Both are minority investors in TINC, having 5% and 4.17% equity respectively; as such neither meets the standard of at least 10% of equity or greater. As described in the governance structure of TINC, neither Ohya, LLC nor the Kathleen B. Bruyette Trust has any voting interest or veto ability given their small interest in the company and TINC's requirement of 25% equity to vote. Neither Ohya, LLC nor the Kathleen B. Bruyette Trust are Close Associates because their interest in TINC does not rise to the level of having any influence of the management, operations, or finances of TINC. Further, Ohya, LLC. and the Kathleen B. Bruyette Trust have no control or authority, through contract or otherwise, over any of the operations outlined in subsection (d) above.

Persons or Entities having Indirect Control as defined as 935 CMR 500.002 as:

any person or entity having indirect control over operations of a Marijuana Establishment. It specifically includes any person with a controlling interest in an indirect holding or parent company of the applicant, and the chief executive officer and executive director of those companies, or any person or entity in a position indirectly to control the decision-making of a Marijuana Establishment.

Ohya, LLC. and the Kathleen B. Bruyette Trust do not qualify as persons or entities having indirect control. Neither has a controlling interest in an indirect holding or parent company of TINC, nor are they officers at such companies. Furthermore, given the governance structure of TINC as defined above, neither Ohya, LLC nor the Kathleen B. Bruyette company are in a position indirectly to control the decision making of TINC because they are minority equity holders with no voting rights.

## **CONCLUSION**

Therefore, in compliance with the CCC's requirement of background checks and disclosure of all equity holders who have control or management authority of TINC; the LLC Agreement establishes that the current Board of Managers, which consists of TINC's Founders, has complete and absolute control of the LLC and will remain in control under TINC's capital raise structure. This includes all equity disbursement to date. As such, Ohya, LLC. and the Kathleen B Bruyette Trust have neither direct nor indirect control.

## **TINC BUSINESS PLAN**

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TINC plans to open a cannabis manufacturing establishment with a focus on infused beverages made with quality, all-natural ingredients that provide consistent experiences for consumers. In addition to TINC's signature beverage line, the company will also produce tinctures.

To facilitate this plan, TINC will purchase and install top quality extraction and canning equipment at the establishment followed by execution of contracts for wholesale monthly purchase and delivery of raw cannabis flower with CCC licensed cannabis cultivators in Massachusetts. TINC is committed to utilizing, to the extent possible, businesses majority owned or operated by minorities, women, veterans, persons with disabilities and individuals who are LGBTQ. This plan is further detailed in our Diversity plan as the "Supplier & Retail Diversity Program."

Upon receipt of the unprocessed cannabis flower and tracking each batch with (METRC) seed-to-sale tracking software, TINC's experienced staff will work inside the secure lab, using state of the art extraction equipment, to produce each product. Sparkling water beverages and tinctures will be made using CO2 extracted cannabis oil as a starting point. For the beverages, the oil is post-processed to be water compatible to infuse the beverages at 2.5 mg & 5 mg THC as measured by a licensed independent testing authority. For the tinctures, the oil is mixed with ethanol and/or glycerin to make the final tincture product.

For the seltzer, water will be purified using a filtration system to remove any impurities. As the purified water is metered into the mixing tank to create a "batch", natural flavors, preservatives (sodium benzoate and citric acid), and the processed water compatible cannabis infusion is added and mixed. After the product is fully mixed to ensure even dilution of the infusion, the liquid is transferred to a holding tank where the beverage will await testing results to validate THC content as well as ensure it is free of any and all contaminants. All finished beverages will be packaged and labeled according to regulations and will be sold in 12 ounce, 5 milligram THC servings. 2.5 milligram beverages will also be available and clearly marked.

TINC plans to introduce three flavors of seltzer: Raspberry-Lime, Lemon-Lime, and Jam Berry.

All products will be tested, packaged and labeled as required by 935 CMR 500.105(5) and (6). Additionally, all products will be prepared, handled, and stored in compliance with 105 CMR 590.000: State Sanitary Code Chapter X: Minimum Sanitation Standards for Food Establishments, and with the requirements for food handlers specified in 105 CMR 300.000: Reportable Diseases, Surveillance, and Isolation and Quarantine Requirements. TINC will then transport completed products to retail establishments at which TINC has an agreement to sell products in accordance with 500.105(13). TINC will utilize company vehicles to transport products to retail stores for sale to consumers or third party transporters to do the same. All transportation will be done according to CCC rules and regulations, 500.105(13)(c).

Based on market trends, customer feedback and consumer response TINC will add to their menu of options over time. TINC plans to have a robust research and development operation to ensure the company's products stay relevant, profitable and enjoyable to consumers.

## **TINC PLAN TO OBTAIN LIABILITY INSURANCE**

Application: MPN281871

In accordance with 935 CMR 500.105(10), TINC plans to obtain and maintain, throughout the life of the company, general liability insurance and product liability insurance, with coverages in both categories for at least \$1,000,000 per occurrence and \$2,000,000 in aggregate annually. Additionally and in accordance with such regulation, the deductible for each policy will not exceed \$5,000 per occurrence.

TINC has been in discussion with four different brokers specializing in cannabis marketplace general liability and property insurance plans that meet the regulatory standard. Matt Parziale and Scott Foster of NFP Corp. have been engaged by TINC to provide all necessary insurance products for the company and have the policies in place upon provisional licensure. A policy agreement will be executed so that coverage applies at the time an insurable risk is present for TINC and before final licensure by the CCC.

## **TINC RECORD KEEPING PROCEDURES**

Application: MPN281871

As required by 935 CMR 500.105(9), TINC will maintain all records in accordance with generally accepted accounting principles and upon the CCC's request, allow for inspection of any record kept and stored by the business. TINC will maintain the following types of records: written operating procedures as required by 935 CMR 500.105(1); inventory records as required by 935 CMR 500.105(8); seed-to-sale tracking records for all products as required by 935 CMR 500.105(8)(e); personnel records as described in 935 CMR 500.105(9)(d) which will include agent records maintained for 12 months post termination of employment, staffing plans, personnel policies and procedures and all background check reports obtained in compliance with regulations; business records which shall include assets and liabilities, monetary transactions, books of accounts, sales records and salary and wage records on each employee; and waste disposal records as required by 935 CMR 500.105(12). Should TINC close its business at some point in the future, all above listed records will be kept for at least two years at a location and in a format acceptable to the CCC.

Record keeping procedures will be managed by the Chief Financial Officer (CFO) or another authorized employee as appointed by TINC's leadership team. This individual will be required to ensure all records are kept in a secure electronic database and/or in any other manner deemed acceptable by the CCC. Only the CFO, the owners, or a specially appointed employee and other specifically authorized TINC personnel shall have access to such records. Access to the electronic database will require all authorized users to access via a password protected firewall. Any and all written records will be stored in a "limited access" area of the establishment and will require authorized personnel to gain access only by specialized key card access.

## **TINC Plan to Restrict Access to Individuals 21 Years of Age or Older**

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TINC's marijuana product manufacturing facility will be a non-public, limited access facility. The facility will be locked at all times and only be accessible to TINC employees via a scan-card activated security system, local law enforcement, the CCC upon request and licensed marijuana transporters, if needed, when delivering or picking up marijuana or marijuana products. Any and all of the above individuals, whether TINC employees or other authorized individuals seeking entry to the facility, will be at least 21 years of age or older.

Occasionally, TINC may have authorized visitors at the establishment. In these instances and in accordance with state law and CC regulations contained in 935 CMR 500.000, TINC will check each individual's ID's to ensure any visitor is 21 years of age or older. Upon proof of meeting the 21+ age requirement, TINC will enter the visitor's name into a visitor's log, and include the time of arrival. Each visitor will then receive and wear prominently a visitor badge designating access. Any visitor will be accompanied by a TINC employee as a chaperone throughout the visit to ensure proper safety and prevent diversion. Upon departure from the facility, visitors will sign out via the visitor's log, noting the time of departure and return the badge to TINC staff.

The protocol for checking in visitors will be included in TINC's written operating procedures in compliance with 935 CMR 500.105(1) and 935 CMR 500.105(9)(a). The visitors log will be kept and stored with all other business records and will be accessible to the CCC and local law enforcement upon request.

## TINC PLAN FOR ENERGY AND ENVIRONMENTAL COMPLIANCE

Application: MPN281871

TINC is committed to being an energy efficient business in the Commonwealth. The Company will meet, or where feasible, strive to exceed CCC guidelines for energy efficiency, conservation and environmental policy requirements. TINC's manufacturing facility is a leased property, putting much of the control of what may be done to the facility in the hands of the landlord. TINC has been working closely with both the property owner and officials in the Town of Georgetown to address the Company's energy efficiency goals for many months leading up to applying for license with the CCC.

An example of this work was the installation of a separate water line on the property, done at the Town's request and at TINC's expense, to ensure the water used to produce products does not have a negative effect on the Town water supply. To further ensure best practices for water use, the Company plans to install separate water meters at the facility. TINC hopes doing so will help track and understand water usage across the various functions within the facility.

Additionally, TINC has hired, and already begun detailed discussions regarding how to meet or exceed CCC guidance with the architectural firms Anderson Porter Design (APD) and Consulting Engineering Services, LLC (CES). Both organizations specialize in energy efficient buildings and APD has more than one million square feet of cannabis facility planning completed internationally. TINC will be working with APD and CES throughout the licensing process and beyond to establish, amend and fine tune efficiencies and conservation over the life of the business.

In accordance with 935 CMR 500.101(c)(10), 935 CMR 500.105(15), 935 CMR 500.130(3) and (5)(e) and guidance issued by the CCC January 2020 (*Energy and Environment Compiled Guidance*), TINC understands the need to comply with the below listed four elements. Under each, the Company outlines steps taken, or steps that will be taken, to address each:

**(1) Identification of potential energy-use reduction opportunities (such as natural lighting and energy efficiency measures), and a plan for implementation of such opportunities.**

- Because TINC is a manufacturing establishment only, the footprint for such uses is minimal compared to other cannabis companies, since TINC will not be running lights or equipment at all times. Regardless, TINC, APD and CES have discussed utilizing energy efficient products, particularly as they relate to heating, cooling and lighting. As part of the planning process for the facility, TINC, APD, and CES performed an audit of all equipment required for the facility to function. When possible, TINC purchased new equipment to be compliant with the latest energy standards and worked in collaboration with Georgetown Municipal Light to ensure the correct service was connected to the building and an energy efficient generator was selected to remain compliant for backup power. Final decisions on efficient use in this category will be determined leading up to and during the architectural review.

## **TINC PLAN FOR ENERGY AND ENVIRONMENTAL COMPLIANCE**

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- In order to meet the Company's energy goals and get a head start on addressing energy efficiencies in this category, TINC elected to have a 'COMcheck' performed to ensure that the building conforms to energy codes (specifically, to ASHRAE 90.1 (2013) Standard). The 'COMcheck' analysis shows that the building insulation and envelope passes 4% better than the code and the Interior lighting passes 61% better than the code. All lighting in the building will be LED and TINC plans to utilize occupancy sensors in the lighting design to reduce waste from leaving lights on when any room is not in use.
- TINC will maintain, as part the Company's written operating procedures information on how the Company will: a) monitor energy consumption and make adjustments as needed based on data collected on such consumption; b) establish procedures for improving energy efficiencies when making any improvements to the facility and c) a process for identifying energy savings opportunities when systems or equipment fails or needs to be replaced. TINC, APD and CES will work together to establish these procedures during the architectural review process when TINC better understands all options available to the company and can rely on experts to provide guidance on establishing these procedures.

### **(2) Consideration of opportunities for renewable energy generation, including, where applicable, submission of building plans showing where energy generators could be placed on the site, and an explanation of why the identified opportunities were not pursued, if applicable.**

- TINC has discussed with the landlord of the property and facility adding or incorporating renewable energy solutions, in particular solar panels that could be placed on the facility roof or on the surrounding leased property footprint. At this stage the property owner has not agreed to move forward with these plans, but conversations are ongoing and may extend to other options as well, as outlined in the CCC's *Energy and Environmental Compiled Guidance* document.
- TINC understands its obligation to, as part of its written operating procedures, to including information on how the Company will make energy supply decisions and regularly evaluate renewable options; procedures for identifying renewable or alternative energy opportunities as part of any facility upgrades, renovations, or expansions; and procedures for identifying renewable or alternative energy opportunities when equipment fails and needs to be replaced.
- The details of the plans outlined in bullet two, above, will be provided during the architectural review process and will include any options and procedures that were considered, whether formally adopted or not. If the Company opts not to adopt any particular option, a rationale as to why it was not pursued will

## **TINC PLAN FOR ENERGY AND ENVIRONMENTAL COMPLIANCE**

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be included and accompanied by a summary of information that was considered to make a decision.

### **(3) Strategies to reduce electric demand (such as lighting schedules, active load management, and energy storage).**

- TINC, as a manufacturing facility only, does not anticipate carrying a large electric footprint, as lights do not need to run 24-hours per day, nor do processing machines need to run on the same timeframe. However, TINC will seek to carry the lowest amount of electric burden as possible, and is working with APD and CES to achieve this goal.
- TINC has already made several product processing equipment decisions that meet the Company's goals to reduce electrical burden. For example, TINC is opting to purchase what is called a "double 10-ton chiller" instead of a "20-ton chiller" so that if or when the Company is running at a lower capacity, it works to draw less power. Additionally, the Company has elected to use 6 product tanks so that smaller batches can be processed. This will equate to less continuous use of the canning line, which utilizes electricity to run. To further reduce the electric load used to operate the canning line, TINC does not plan to can each day. Instead, the Company will establish a staggered process to align with the cadence of testing each batches. This should result in an overall reduced electric load. TINC also plans to purchase 'Energy Star' certified appliances, such as the refrigerator and dishwasher in the break room, to help reduce energy usage.
- As part of the Company's written operating procedures, TINC will incorporate a description of how it will monitor energy demand and make adjustments to operations based on data, in addition to procedures for participation in load curtailment, energy storage, or other active demand management programs, if applicable. All procedures will be finalized before or upon the architectural review process and will include the Company's consideration of demand reduction opportunities, whether opportunities are being implemented, will be implemented at a later date, or not planning to be the implemented.

### **(4) Engagement with energy efficiency programs offered pursuant to M.G.L. c. 25, § 21, or through municipal lighting plants.**

- The Town of Georgetown operates its own municipally run utilities and an MLP, and thus TINC will not be eligible for Mass Save Programs. However, TINC will pursue other opportunities through the local MLP, as detailed in Commission guidance.
- TINC plans to, bi-annually, review applicable energy efficiency programs, and any new opportunities and incentives offered by MLP. The Company will

## **TINC PLAN FOR ENERGY AND ENVIRONMENTAL COMPLIANCE**

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keep records of when such review of these offerings has occurred and any programs the Company may be able to engage with. This bi-annual review process will be included in TINC's written operating procedures, in compliance with 935 CMR 500.105(1)(q).

- The Company, upon architectural review, will show proof of engagement with eligible programs and any financial incentives received.

## **TINC QUALITY CONTROL AND TESTING**

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TINC will fully comply with 935 CMR 500.160. TINC will purchase, and have delivered to the marijuana establishment, cannabis flower tested and approved for quality control as required by the regulations. A sample for each batch of TINC's finished marijuana products will be transported to and be tested by an Independent Testing Laboratory as required by 935 CMR 500.160 (1) and 935 CMR 500.105(13). No TINC products will be marketed or sold before all laboratory testing is complete and all products are deemed to comply with regulatory standards. All laboratory testing result records will be maintained for at least 1 year. Storage and transport of finished products will be under conditions that protect them against physical, chemical, and microbial contamination, in addition to deterioration of finished products or their containers, consistent with 935 CMR 500.105(3)(15).

TINC will maintain written policies and procedures for responding to laboratory results that indicate contamination above acceptable limits, which are established via 935 CMR 500.160 (3). TINC's policy includes notifying the CCC within 72 hours of notification of a contaminant in any finished product that cannot be remediated. TINC will include in its notice to the CCC a plan for disposal of any such contaminated products, in compliance with the regulations, and an assessment of the source of the contamination and a plan of action to remedy the breach. TINC, as an establishment that will be licensed to process finished marijuana, will ensure that only the leaves and flowers of female plant are processed in a safe and sanitary manner, which includes ensuring that the finished marijuana is well cured and generally free from seeds and stems; the marijuana is free from dirt, sand, debris and other foreign matter; the marijuana is free of contamination by mold, rot, other fungus and bacterial diseases; the marijuana is prepared and handled on food grade stainless steel tables; and that it is packaged in a secure area consistent with 935 CMR 500.105(3)(a). All agents whose job includes contact with marijuana will be trained on the requirements for food handlers as specified by 935 CMR 300.000. As required by 935 CMR 500.105(3)(b)(2), agents working in direct contact with marijuana will abide by all good sanitary practices while in duty, which includes maintaining adequate personal cleanliness, including wearing required protective clothing prior to entering the manufacturing space; and washing hands thoroughly in an adequate hand-washing area before starting work, and at any other time when hands may have become soiled or contaminated in clearly marked hand washing stations.

Consistent with 935 CMR 500.105(3)(b)(3) and (4), in all processing and production areas, and areas where good sanitary practices require employees to wash and sanitize their hands, there will be hand-washing facilities that are adequate, convenient and shall be furnished with running water at a suitable temperature. Additionally, there shall be sufficient space for placement of equipment and storage of materials necessary to maintain sanitary operations. As prescribed by 935 CMR 500.105(3)(b)(6), (9) and (10), floors, walls, and ceilings will be constructed in a manner ensuring they can be kept clean and in good repair. All contact surfaces, utensils and equipment will be maintained in a clean and sanitary condition, and will be sanitized as frequently as necessary to protect against contamination using a sanitizing agent registered by the US Environmental Protection Agency (EPA), in accordance with labeled instructions. All toxic items shall be identified, held, and stored in a manner that protects against contamination of Marijuana Products. Finally, litter and waste will be properly removed so as to minimize the

## **TINC QUALITY CONTROL AND TESTING**

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development of odor and the potential that the waste could attract and harbor pests and operating systems for waste disposal will be maintained in an adequate manner pursuant to 935 CMR 500.105(3)(b)(5) and 935 CMR 500.105(12). TINC, in consult with the Town of Georgetown, installed a water line at the facility to ensure there would be no negative effect on the Town's water supply. This line also ensures that, in compliance with 935 CMR 500.105(3)(b)(11) and (12), there is an sufficient water supply for the Company's operations and that the plumbing at the establishment is of adequate size and design and maintained to carry sufficient quantities of water to required locations throughout the facility. Finally, TINC's establishment has been designed to provide employees with adequate, readily accessible toilet facilities, including showers, maintained in a sanitary condition and in good repair in compliance with 935 CMR 500.105(3)(b)(13).

## **TINC PERSONNEL POLICIES AND BACKGROUND CHECKS**

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All personnel policies are outlined in detail in TINC's Employee Handbook. TINC is an equal opportunity employer and will strive to hire and accommodate qualified individuals with disabilities and to employ those with diverse backgrounds. All personnel records and background check results will be kept in accordance with 935 CMR 500.105(9)(d) and will specifically include a staffing plan that will demonstrate accessible business hours and safe working conditions, and staffing records as required by 935 CMR 500.105(9)(3) and 935 CMR 500.105(1). Written operating procedures as they relate to personnel policies will include but not be limited to alcohol, smoke and drug-free workplace policies as required by 935 CMR 500.105(1)(k).

TINC recognizes that individuals hired by the Company may provide as part of their employment confidential information. TINC is committed to ensuring that all confidential information is protected and maintained in a safe and secure location. In order to ensure confidentiality comply with 935 CMR 500.105(1)(l), TINC plans to use cloud-based software to protect all confidential information and will ensure that only authorized personnel have access to such records. The same system will be used to comply with the regulations as it relates to any other types of confidential information that the company may need to store and maintain.

All TINC employees will be registered as Marijuana Agents, as required by regulation, and will undergo all accompanying background checks. All employees will undergo a series of job specific trainings before beginning duties, training specific to confidentiality and privacy requirements, in addition to an annual 8 hour training and Responsible Vendor Training. In accordance with 935 CMR 500.105(1)(m), TINC will establish and include in its Employee Handbook the policy for immediate dismissal of any agent that has diverted marijuana, engaged in unsafe practices, or been convicted or entered a guilty plea for a felony charge of distribution of a drug to a minor or a like violation in any other jurisdiction.

All personnel will, at the start of employment and annually thereafter, receive 40 hours of paid sick time as provided for in Massachusetts Earned Sick Time Law, M.G.L. c. 149 § 148C. TINC is actively registered and participating in the Paid Family and Medical Leave Act (PMFL), with all employees being presented written notice of PFML benefits, contribution rates, and other provisions as outlined in M.G.L c. 175M § 4 at the time of hiring. If any employee chooses not to acknowledge the receipt of PFML benefits, TINC will handle all paperwork to ensure the Department of Family and Medical Leave are satisfied with TINC's action. The required workplace posted will be hung in the corporate break-room for all employees to see. Additionally, TINC has a robust policy for paid vacation time, parental leave, bereavement leave, military service leave, and time off for jury duty. Employee standards of conduct are outlined in the Employee Handbook and include disciplinary protocols in addition to policies for a drug free and harassment free workplace.

## **TINC MAINTENANCE OF FINANCIAL RECORDS**

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All electronically stored business and financial records required under 935 CMR 500.105(9) including but not limited to: assets and liabilities; monetary transactions; books of accounts (including journals, ledgers, and supporting documents, agreements, checks, invoices, and vouchers); sales records; and salary and wages paid to each employee under 935 CMR 500.105(9)(e) and any other financial records kept by TINC will be maintained in electronic databases and retained for at least two (2) years. Only authorized TINC staff may access electronic records which will require a 2 point authentication system in order to gain access. All electronically stored records will automatically be uploaded to the electronic databases in real time or at least every 24-hours, to ensure that in the unlikely event of a system crash or data breach, all electronic records are maintained according to regulations. Portions of our financial records will be stored within our third-party service vendor servers as well: our Banking establishment, book-keeping system, and METRC. Any electronic records that are printed out will either be shredded after use or stored with other paper format records located in a designated "limited access" area on site at TINC's manufacturing establishment.

All written and electronic records shall only be accessible to authorized TINC personnel and to the CCC, or local officials, upon request. All such records will be maintained according to generally acceptable accounting principles, and in the event that TINC winds down the business, all records will be stored in a location and format acceptable to the CCC and will be kept for a period of at least 2 years.

## **TINC QUALIFICATIONS AND TRAINING**

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In order to be employed by TINC, all interested parties must apply for positions as posted by TINC, and in order to be hired must meet all specific job qualifications and, in compliance with 935 CMR 500.105(2)(a), complete training on job specific duties prior to beginning work. As part of the hiring process, the Company will seek to identify participants in the Social Equity and/or Economic Empowerment programs for all jobs being posted. The Company will post notices with the CCC as well as locally identified publications that serve areas of disproportionate impact.

Prior to final licensure, TINC anticipates it will need to hire additional staff to support the current executive team detailed in the application. The roles, responsibilities, and qualifications are anticipated to be:

1. Sales Development Representative –

- a. The Sales Development Representative will work to cultivate relationships with various cannabis establishments throughout Massachusetts to educate establishment owners, consumers, and budtenders on our portfolio of products. Specifically, the sales development representative will be responsible for:
  - i. Meeting sales goals and company objectives through securing sales of wholesale TINC cannabis products to dispensaries throughout Massachusetts.
  - ii. Managing a defined territory to obtain cannabis market share through developing strong relationships.
  - iii. Prospecting specified territories to develop new clients and relationships.
  - iv. Maintaining current clients and account activity.
  - v. Working with the management team to stay up-to-date on cannabis products and market trends.
  - vi. Maintaining consumer contact information and presenting the analysis of sales to management for review.
  - vii. Working independently, yet cooperatively, with the company and team goals and directives.
  - viii. Adhering to all CCC regulatory guidelines and company policy related but not limited to state licensing, permitted and prohibited advertising practices and safety.
  - ix. Maintenance and care of samples and displays.
- b. Qualifications for the Sales Development Representative include:
  - i. Age 21+.
  - ii. Must be qualified to become a Registered Marijuana Agent with the State of Massachusetts.
  - iii. Professional appearance and demeanor.
  - iv. Excellent verbal and written communication skills.
  - v. Proficiency in Microsoft Office and Google Suite.
  - vi. Familiarity with seed-to-sale tracking software and/or the ability to be trained to work with such systems (e.g. METRC)
  - vii. Must be able to work extensively across Massachusetts.
  - viii. Valid driver's license and good driving record.

## **TINC QUALIFICATIONS AND TRAINING**

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- ix. Reliable personal transportation.
  - x. Commission-based sales experience preferred.
  - xi. Experience in and knowledge of the cannabis industry preferred.
  - xii. Strong relationships with dispensaries in Massachusetts preferred.
  - xiii. Authenticity – we care about the people with whom we work and the communities in which we live. We believe that clear communication builds a better world than suspicion, and that transparency is the key to building trust and confidence in all that we do.
  - xiv. Resourcefulness – we seek individuals that are adaptive and creative, finding joy in connecting assets and ideas in novel ways that are not immediately apparent to others.
  - xv. Innovation – we seek individuals that are excited to not only work in a new industry but to create one.
2. Delivery Driver(s) -
- a. Qualifications for Delivery Driver include:
    - i. 21+ years old
    - ii. A valid Driver's License
    - iii. Proof of insurance in your name
    - iv. Background check and DMV driving record
    - v. Excellent written and verbal communication skills required
    - vi. Excellent customer service skills required
    - vii. Comfortable in a fast-paced, time-sensitive environment
    - viii. Must have or be qualified to become a Registered Marijuana Agent with the State of Massachusetts
    - ix. An ability to adhere to all regulatory guidelines and company policy related to transportation of marijuana products as defined by 935 CMR 500.105(13)(c)
    - x. Familiarity with seed-to-sale tracking software and/or the ability to be trained to work with such systems (e.g. METRC)
3. Extraction Lab Assistant -
- a. Qualifications for the Extraction Lab Assistant include:
    - i. 21+ years old.
    - ii. Must possess BS in a hard science, Analytical Chemistry degree preferred. Previous experience working in a laboratory environment and/or in the cannabis industry is preferred but not required.
    - iii. Candidate must be comfortable working with cannabis.
    - iv. Previous experience with Lab Information Management systems preferred.
    - v. 1-2 years of prior experience in an academic or commercial lab is preferred.
    - vi. Previous experience working in a laboratory environment and/or in the cannabis industry is preferred.
    - vii. Experience with basic laboratory tasks such as pipetting.
    - viii. An ability to adhere to all state regulations and company policy related to but not limited to safe handling of marijuana and marijuana products and sanitary practices.

## **TINC QUALIFICATIONS AND TRAINING**

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- ix. Familiarity with seed-to-sale tracking software and/or the ability to be trained to work with such systems (e.g. METRC)
  - x. Ideal candidate will be a creative, analytical problem-solver who can cooperatively and effectively work with colleagues. Understands and follows verbal and written instructions; works independently in the absence of supervision. Ideal candidate will possess the ability to make mathematical calculations quickly and accurately.
  - xi. Willingness to learn and grow in the analytical chemistry field.
  - xii. Proficiency with the Microsoft Office suite (Word, Excel, etc.) and G Suite (primarily Google Sheets & Google Docs).
  - xiii. Effective communication skills (both verbal and written) with excellent computer, typing, and organizational abilities.
  - xiv. Ability to work in a fast-paced setting, ability and willingness to multi-task, and the ability to prioritize and manage assignments.
  - xv. Positive attitude and willingness to work in a collaborative environment.
  - xvi. Hours/Schedule: 1st or 2nd Shift, extra hours may be required, potential for flexible hours.
4. Packaging Team (Canning Line) -
- a. The Packaging Team ensures the packaging of all products of the facility are labeled and packaged correctly and are in compliance with all CCC regulations. The Packaging Team will work with leadership to ensure that the quality and quantity of TINC's products meets our highest standards. This individual needs to be technically savvy as they perform many machine-adjustment and maintenance tasks in a day.
  - b. Qualifications for the Packaging Operator include:
    - i. 21+ years old.
    - ii. Previous experience in a manufacturing environment.
    - iii. Proper use of PPE.
    - iv. OSHA-approved Forklift Certification.
    - v. Competent operation of fillers, washers, palletizers and conveyors.
    - vi. Maintain line efficiency through seamless supply of empty packaging and removal of full packaging.
    - vii. High School diploma or minimum equivalent required.
    - viii. Bachelor or Associate Degree from an accredited college/university is preferred.
    - ix. The ability to ensure accurate and legible coding and compliant labeling of all containers in compliance with CCC regulations.
    - x. Proficient or the ability to learn SAAS systems for inventory management and compliance.
    - xi. Previous experience within a canning facility is preferred.
    - xii. Strong attention to detail.
    - xiii. Genuine enthusiasm for cannabis beverages.
5. Director of Production -
- a. The Director of Production is responsible for managing the Operations, Manufacturing, and Quality and Regulatory departments with the goals of compliance, innovation, cost reduction, and improved efficiencies.

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- b. Qualification for the Director of Production include:
  - i. 21+ years only.
  - ii. Familiarity with seed-to-sale tracking software and/or the ability to be trained to work with such systems (e.g. METRC)
  - iii. Candidate must be comfortable working with cannabis
  - iv. An ability to adhere to all state regulations and company policy related but not limited to safe handling of marijuana and marijuana products and sanitary practices.
  - v. Must have experience implementing large Enterprise Resource Planning (ERP) projects.
  - vi. Proficiency modeling business systems with Excel.
  - vii. Bachelor's degree in engineering, manufacturing or equivalent (Required)
  - viii. Minimum of ten (10) years progressive experience, preferably within a regulated industry (Requirement).
  - ix. Post graduate degree, or equivalent, (Preferred).
  - x. Project Management: 5 years (Required).
  - xi. Enterprise Resource Planning (ERP) Systems: 5 years (Required).

After hire, all TINC employees, interns and volunteers must register with the CCC as "Marijuana Establishment Agents" as required by 935 CMR 500.030 and receive approval to work as an agent. Following such approval but before commencing work duties, each employee must undergo a series of trainings which are outlined in TINC's Employee Handbook and are tailored to the duties and responsibilities of the specific job function as noted in 935 CMR 500.105(2)(a). These trainings shall include but not be limited to: Responsible Vendor Program training as required by 935 CMR 500.105(2)(b), which for new employees must occur within 90 days of being hired; privacy and confidentiality training; security and emergency protocol training; training on preventing diversion of marijuana and marijuana products; harassment and sexual harassment training; and job specific training which includes an eight hour annual training consistent with 935 CMR 500.105(2)(b). TINC's Employee Handbook ensures that all employees are aware they will undergo a minimum of 8 hours of ongoing training annually.

Although TINC's business will be licensed after July 1, 2019, the Employee Handbook will note that all current owners, managers and employees of TINC that are involved in the handling and sale of marijuana for adult use at the time of licensure or renewal of licensure, as applicable, shall have attended and successfully completed a Responsible Vendor Training Program to be designated a "Responsible Vendor." Each owner, manager and employee involved in the handling and sale of marijuana for adult use shall take the training each year, annually. All Responsible Vendor training documentation will be retained for four years and will be available for inspection by the CCC and any other applicable licensing authority on request during normal business hours in compliance with 935 CMR 500.105(2)(b).

## **TINC DIVERSITY PLAN**

Application: MPN281871

TINC is deeply committed to employing a diverse workforce and will strive to meet or exceed CCC goals for hiring, in addition to contracting with other businesses that are owned or operated by diverse individuals. Below are TINC's diversity goals and the programs that the Company will implement in order to achieve them. Each program, tailored to meet these goals, contain metrics that will be used to assess both the efficacy of the programs themselves and their ability to help TINC achieve compliance with the overall goals of the Diversity Plan.

### **GOALS**

**GOAL 1: Hire a Diverse Workforce.** TINC is a small business based in Georgetown, a small town on the north shore of the state. In the first year of operation, the company plans to employ approximately 10 individuals including the owners and C-level executives, and plans to hire between 2 and 10 additional employees within the first two years of operation, depending on business growth. Even though TINC is based in an area of the state that lacks significant diversity, and even with its small workforce, the company will strive to employ a workforce that is 45% diverse, consisting of:

1. 20% women
2. 10% minorities
3. 5% veterans;
4. 5% those with disabilities to the extent feasible and
5. 5% from the LGBTQ population.

To shed light on the above outline for hiring: TINC is a female owned business, with one of the female owners being a Social Equity Program participant, accepted into the program in 2020. Additionally, TINC has one female board member serving in an advisory capacity, and has plans to, upon final licensure, hire 1 individual already accepted into the social equity program in 2020 and 1 African American veteran, already working in the cannabis industry. As noted above, as the Company grows, TINC plans to hire staff accordingly and will work diligently to meet or exceed the above outlined diversity goals.

TINC will keep records of the total number of individuals hired in each of the above categories to document whether these goals are being met on an annual basis. If for any reason outside of the company's control TINC is unable to meet these percentages, TINC plans to make monetary donations to entities supporting these populations until quotas are fully met. Records of any such inability to hire a diverse workforce and any donations made will be kept alongside all other personnel records and stored according to 935 CMR 500.105(9).

A note on employing those with disabilities: TINC is deeply committed to empowering individuals with disabilities and believe they can play an important and often overlooked role in the cannabis industry. To show commitment to this underserved population, TINC plans to partner with Opportunity Works, a non-profit organization committed to empowering people with developmental disabilities. Opportunity Works serves individuals across the North Shore community. TINC's goal in this partnership is to provide access to relevant job opportunities for individuals within their program that work for both parties, so long as they meet CCC

## **TINC DIVERSITY PLAN**

Application: MPN281871

background check and other agent requirements. Job functions may include packaging of beverages amongst other entry level roles.

### **GOAL 2: Contract for Goods and Services with Diverse Companies in Massachusetts.**

TINC values supporting companies meeting diversity standards similar to the Company's. As a cannabis product manufacturer, part of TINC's business plan requires the wholesale purchase of cannabis which TINC hopes can be achieved through contracting with licensed cannabis growers that are owned or operated by a majority of diverse individuals. Additionally, TINC will need to purchase general goods and services for the facility and its operations. TINC's goal is also to seek out and contract with companies supplying such services that are owned or operated by a majority of diverse individuals. In year one of operation, TINC aims to contract with at least one business (cannabis or otherwise) that is majority owned and/or operated by minorities, women, veterans, persons with disabilities and individuals who identify as LGBTQ.

In seeking to achieve the above listed goals, TINC will comply with the requirements of 935 CMR 500.105 (4) which provides the permitted and prohibited advertising, branding, marketing, and sponsorship practices of every Marijuana Establishment. Any actions taken, or programs instituted by TINC will not violate the Commission's regulations with respect to limitations on ownership or control or other applicable state laws.

## **PROGRAMS**

### **#1. A) Identify & recruit diverse individuals in order to meet the Company's diversity hiring goals and B) Increase staff awareness of the importance of inclusion and diversity in the workplace.**

- A) The Company will seek to hire a diverse workforce consisting of: women (20%), minorities (10%), veterans (5%), individuals with disabilities, to the extent feasible under CCC rules and regulations (5%) and those identifying as LGBTQ (5%). These percentages, in year one of operation, will include owners and C-level executives in addition to the hiring of between 2 and 5 additional employees. TINC plans to seek out those in the above identified diverse categories by posting for positions (in accordance with CCC advertising rules and regulations) with outlets in which these populations may be likely to engage, including through the CCC's Social Equity and Economic Empowerment Programs. The Company will post jobs as needed based on the growth of the business; when actively seeking new employees, the Company will post bi-monthly until the position is filled.

In addition to posting positions with the CCC's Social Equity and Economic Empowerment programs, TINC plans to establish relationships through direct outreach with the Massachusetts LGBTQ Chamber of Commerce, the Black Economic Council of Massachusetts, the Western Massachusetts Black Chamber of Commerce, the Minority Cannabis Business Association and the New England Veteran's Chamber of Commerce in order to seek advice and council on reaching key, diverse individuals for employment

## **TINC DIVERSITY PLAN**

Application: MPN281871

in the cannabis industry, in addition to utilizing their job boards or internal networks to advertise positions. The Company will attend at least 1 event hosted by the reference organizations.

- B) In order to increase staff awareness of the importance of inclusion and diversity, the company will:
1. Conduct quarterly reviews of the business to search for and remove barriers for people of diverse backgrounds, to ensure they have access to opportunities within the company;
  2. During new employee onboarding, the Company will utilize instructional materials aligned with the company's values in order to provide all employees with an understanding of how cultural differences might affect or enhance participation in the workplace;
  3. Create an environment of trust between management and staff as well as amongst peers and practices within the business to maintain awareness and to continue to promote diversity within the company through an annual diversity seminar, which is referenced and outlined in the Employee Handbook;
    - a) Topics for the seminar will include but are not limited to: Building and Leading Diverse Teams, Career Planning in a Diverse Workplace, Organizational Assessments to Ascertain Levels of Inclusiveness and Diversity Friendliness, and Company Policy reviews (e.g. Harassment Policies, Disability Rights)
  4. Develop a process and procedure to properly document and resolve any matters that may impact the Diversity Plan.

### **Measurement Metrics for Program #1:**

1. Count the number of individuals from the above-referenced demographic groups who were hired and retained after the issuance of a license, which will be assessed from the total number of individuals hired to ensure that 50% of all individuals hired fall within TINC's overall diverse hiring goals;
2. Count the number of promotions for people falling into the above-referenced demographic groups since initial licensure;
3. Count the number of positions created since initial licensure and assess whether there are any job qualifications or other aspects of the position that would deter diverse applicants from applying or being employed by the Company;
4. At least annually, evaluate the process used for recruiting, hiring and retaining staff to determine whether the Diversity Plan is still effective and determine whether any hiring practices include barriers to access for diverse populations and adjust processes accordingly
5. Track and record all outreach and engagement with the Massachusetts LGBTQ Chamber of Commerce, the Black Economic Council of Massachusetts, the Western Massachusetts Black Chamber of Commerce, the Minority Cannabis Business Association and the New England Veteran's Chamber of Commerce, and any other additional entities or outlets, and count the number of positions hired through utilizing the power of these networks;
6. Conduct an annual employee survey regarding the effectiveness of the annual diversity

seminar and annual employee diversity training programs to determine the program efficacy in increasing staff awareness of the importance of a diverse workplace and cultural differences; and

7. Document TINC's performance on all of the above Measurement Metrics, in a format suitable for submission to the CCC, within 90 days of its annual renewal date.

## **#2: Supplier & Retail Diversity Program**

TINC is committed to utilizing, to the extent possible, businesses owned by or operated by employees whom are a majority of minorities, women, veterans, persons with disabilities and individuals who are LGBTQ, with a goal to contract with at least one such business in year one of operation. TINC proposes to actively identify and pursue partnerships with wholesale suppliers, retail partners, and/or contractors owned or operated by employees whom are a majority of minorities, women, veterans, persons with disabilities and individuals who are LGBTQ.

### **Measurement Metrics for Program #2:**

1. On a bi-annual basis, through the Massachusetts Supplier and Diversity Office, TINC will utilize the state directory of certified businesses, to identify vendors the Company may be able to partner with in order to meet Diversity Plan Goal 2. TINC will record each the date of each bi-annual review, the business identified as potential partners during such review, and will store such business records in accordance with CCC record keeping procedures;
2. Identify and attend area business supplier trade shows at least two times per calendar year.
3. Train directors and managers on sourcing diverse suppliers once annually each calendar year.
4. To the extent feasible, measure the number of cannabis companies owned by or operated by employees whom are a majority of minorities, women, veterans, persons with disabilities and individuals who are LGBTQ, once annually each calendar year;
5. Annually review whether there are other ways the Company can partner with businesses meeting the goals of the Program; and
6. In year one, contract with at least one (1) business in the Supplier & Retail Diversity Program or a CCC licensed cannabis establishment.

In order to track the success of the programs within TINC's Diversity Plan, TINC will bi-annually review the Company's diversity goals, whether the programs within the Diversity Plan are working to meet the Company's goals, and whether adjustments or additions to the Plan are warranted. TINC will document the Diversity Plan's bi-annual review, including whether measurable goals have been met, and will store such records alongside other personnel records according to 935 CMR 500.105(9). TINC acknowledges the progress and success of its Diversity Plan must be documented upon license renewal (one year from the issuance of a provisional license) and each year thereafter, and will share with the CCC all records pertaining to the Plan at licensure renewal or at any other time upon request.



**TINC**

## **Safety Program**

**TINC HQ**

Prepared by:

TINC

in association with:

U.S. Compliance Systems, Inc.

This Safety Program is current as of: **07/20/2020**

Disclaimer: This Safety Program is licensed for the exclusive use of TINC. Program materials were selected from standardized materials by the customer. U.S. Compliance Systems does not collect or retain information specific to the customer and does not modify standardized programs for customers. Customers are not permitted to modify standardized content. USCS accepts no responsibility for program materials selected and implemented by customers.

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# **TINC**

## **Policy Statements**

## Coronavirus Disease 2019 Policy Statement

The health of our employees is of utmost importance, as they are our most valuable asset. The following policy has been implemented to protect our employees to the greatest of our ability from the spread of Coronavirus Disease 2019 (COVID-19).

COVID-19 is a respiratory disease that has spread from China to many other countries around the world, including the United States. Infection with SARS-CoV-2, the virus that causes COVID-19, can cause illness ranging from mild to severe and, in some cases, can be fatal.

Regardless of potential occupational exposures, the following Pandemic Response Plan will be implemented in order to limit the risk to our employees.

### Prevention and Precautions

It may be possible that a person can get COVID-19 by touching a surface or object that has SARS-CoV-2 on it and then touching their own mouth, nose, or possibly their eyes, but this is not thought to be the primary way the virus spreads.

Our employees' current risk of exposure will be assessed and evaluated. If appropriate, controls to prevent exposure will be selected and implemented, and workers will be required to use them.

These could include physical barriers to control the spread of the virus; no large meetings or gatherings, social distancing; and appropriate personal protective equipment, hygiene, and cleaning supplies.

- a. Policies and practices, such as flexible worksites (e.g., telecommuting) and flexible work hours (e.g., staggered shifts), will be explored if state and local health authorities recommend the use of social distancing strategies to increase the physical distance among employees and between employees and others.
- b. Workers will be discouraged from using other workers' phones, desks, offices, and other work tools and equipment, when possible.
- c. Employees will be encouraged to self-monitor and report when they are sick or experiencing symptoms of COVID-19. Workers will be required to stay home if they are sick.
- d. Any employee exhibiting signs and symptoms of COVID-19 will be sent home immediately.
- e. Employees are restricted to only essential travel to known COVID-19 high risk countries and employees who have recently visited restricted countries must follow quarantine protocols.

### Signs and Symptoms

Symptoms of COVID-19 typically include fever, cough, and shortness of breath. Some people infected with the virus have reported experiencing other non-respiratory symptoms. Other people, referred to as *asymptomatic cases*, have experienced no symptoms at all.

According to the CDC, symptoms of COVID-19 may appear in as few as 2 days or as long as 14 days after exposure. The virus is thought to spread mainly from person-to-person, including:

- a. Between people who are in close contact with one another (within about 6 feet).
- b. Through respiratory droplets produced when an infected person coughs or sneezes. These droplets can land in the mouths or noses of people who are nearby or possibly be inhaled into the lungs.

#### Procedures for a Confirmed Case

If an employee is confirmed to have COVID-19, fellow employees will be informed of their possible exposure to COVID-19 in the workplace, but confidentiality will be maintained as required by the Americans with Disabilities Act (ADA). Employees exposed to a co-worker with confirmed COVID-19 will be referred to [CDC guidance](#) for how to conduct a risk assessment of their potential exposure.

#### Communication/Notification Procedure

Important COVID-19 information will be communicated to our employees by small safety meetings, email, text, and/or telephone.

- a. A suspected employee illness will be communicated internally by the most effective, safe means possible using emails and/or phone messages.
- b. As the event evolves, we will communicate any necessary changes with our employees through workplace postings, emails, and/or phone messages.
- c. We will provide information on workforce readiness and precautionary measures for personnel reporting to 3<sup>rd</sup> party sites and projects via email and phone messages.

#### Team Member Hygiene

Frequent and thorough hand washing will be promoted, including by providing workers, customers, and worksite visitors with a place to wash their hands.

- a. If soap and running water are not immediately available, alcohol-based hand rubs containing at least 60% alcohol will be provided.
- b. Respiratory etiquette, including covering coughs and sneezes, will be required.

#### Facility Hygiene

Regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment, and other elements of the work environment, will be maintained.

- a. Cleaning products with EPA-approved emerging viral pathogens claims will be used where necessary ([click here](#) for a list of qualified disinfectants).
- b. Manufacturer's instructions for the use of all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE) will be followed.

## Sanitation Procedures

Sanitation and disinfection will need to happen after persons suspected/confirmed to have COVID-19 have been at the workplace. Areas visited by the ill persons will be closed off to all but those responsible for sanitation and disinfection.

- a. Outside doors and windows will be opened where possible and ventilating fans will be used to increase air circulation in the area. Cleaning and disinfection will begin at least 24 hours after appropriate ventilation.
- b. Cleaning staff should sanitize and disinfect all areas such as offices, bathrooms, common areas, shared electronic equipment like tablets, touch screens, keyboards, remote controls, and anything else used by the ill persons, focusing especially on frequently touched surfaces.

## Return to Work

Employees with COVID-19 who have stayed home (home isolated) can stop home isolation under one of the following two conditions:

If you will not have a test to determine if you are still contagious, you can leave home after these three things have happened:

- a. You have had no fever for at least 72 hours (that is three full days of no fever without the use medicine that reduces fevers); AND
- b. Other symptoms have improved (for example, when your cough or shortness of breath have improved); AND
- c. At least 7 days have passed since your symptoms first appeared.

If you will be tested to determine if you are still contagious, you can leave home after these three things have happened:

- a. You no longer have a fever (without the use medicine that reduces fevers); AND
- b. Other symptoms have improved (for example, when your cough or shortness of breath have improved); AND
- c. You received two negative tests in a row, 24 hours apart. Your doctor will follow [CDC guidelines](#).

In all cases, follow the guidance of your healthcare provider and local health department. The decision to stop home isolation should be made in consultation with your healthcare provider and state and local health departments. Local decisions depend on local circumstances.

We will continue to monitor public health communications about COVID-19 recommendations by frequently checking the [CDC COVID-19 website](#).

This Policy Statement will be conspicuously posted.

---

Eric Rogers  
Safety Director

## **Safety and Health Policy Statement**

It is the policy of TINC to provide a work environment that is inherently safe. The safety and health of our employees is of primary importance as they are our most important resource. Safety takes a commitment from all personnel within our organization.

TINC has developed a comprehensive safety program that addresses our specific safety concerns and provides guidance for the performance of our individual job tasks within the framework of appropriate Occupational Safety & Health Administration (OSHA) standards.

There also may be times when employees are required to meet safety policies that are specific to our company. If we implement these additional policies, they must have more stringent safety requirements than what OSHA has developed. These policies can be found listed in the Safety Program Addendum at the end of this safety program when applicable.

Training will be interactive with an opportunity for all to actively participate, ask questions, make suggestions, and refer to our written policies and procedures.

Safety training needs will be identified by continual reassessment of our work methods, equipment and work stations as well as employee and management input. Observation of unsafe acts will be addressed immediately.

Each employee is encouraged to contact their supervisor immediately should a safety or health risk exist so that corrective action may be taken immediately.

Safety requires not only that each person understand and perform individual tasks in a safe manner, but also that each individual is aware of his surroundings and is actively involved in the safety of others.

This Policy Statement will be conspicuously posted.

---

Eric Rogers  
Safety Director

## New Hire Safety Orientation Policy Statement

Eric Rogers, our safety director, or a designated competent person, will ensure that all new hires are aware of the accessibility of our safety program and, through interactive discussion or practical demonstration, be assured that the new hire understands the safety policies and procedures that pertain to the actual work the new hire will perform.

Further, each new hire will read (or have explained) the contents of our employee handbook and **sign** the Employee Acknowledge form which states:

I have read and understand the contents of this Employee Handbook.  
I will, to the best of my ability, work in a safe manner and follow established work rules and procedures.  
I will ask for clarification of safety procedures of which I am not sure prior to performing a task.  
I will report any unsafe acts or procedures to Matt Melander, our Safety Program Administrator, and will ensure they are addressed and resolved before continuing work.  
I understand that the complete safety program is located at:  
68 Tenney Street  
Georgetown, MA 01833  
833-879-8462  
and is available for my review.

It will be explained to all new hires that safety training and safety performance is an on-going process. Depending on circumstances, training will take the form of some or all of the following: safety meetings, on-the-job instruction, formal and informal training.

Finally, all new hires will be informed of the importance of our inspection and enforcement policies and procedures.

---

Eric Rogers  
Safety Director

## **Stop Work Authority & Workers' Right to Refuse Dangerous Work Policy Statement**

As referenced in the New Hire Safety Orientation, each employee is:

- a. To work in a safe manner and follow established work rules and procedures to the best of their ability.
- b. To ask for clarification of safety procedures of which they are not sure prior to performing a task.
- c. To report to our Safety Program Administrator or competent person any unsafe acts or procedures and will ensure they are addressed and resolved before continuing work.

Specific procedures have been established to ensure that all employees understand the importance of **not** performing a job task if it cannot be performed safely and in accordance with appropriate standards.

Stop Work Authority Procedures training will be given during the new hire safety orientation before initial assignment to any job task. Training will be documented and include the employee's name, dates of training, and subject.

All employees not only have the authority to stop work when control of a health, safety, or environment hazard or risk is not clearly established or understood, they have an obligation to stop work.

### **Procedures:**

- a. Upon discovery or realization that control of a health, safety, or environment hazard or risk is not clearly established or understood, the employee will immediately stop work.
- b. Employees with whom he/she is working will be immediately informed so a health, safety, or environment hazard or risk does not impact them or their work.
- c. The safety program administrator/competent person will be notified as soon as possible so the situation may be addressed (corrected).
- d. If the safety program administrator/competent person can successfully address the issue, work will resume. If it is not resolved, work will remain stopped until it is. Most stop work procedures can be resolved in a timely manner at the workplace. On occasion, it may require additional investigation to determine the root cause of the problem and the proper procedures to proceed.
- e. The stop work will be documented with a stop work report.

### **Supervisor Review:**

The safety program administrator reviewing stop work reports can determine employee participation in the program, the quality of the interventions, trend common issues, and identify opportunities for improvement and establish new safety procedures to preclude a reoccurrence.

#### Follow-up:

After the stop work intervention has been initiated and closed, the supervisory review has been completed, all safety issues have been resolved in a timely manner at the workplace to the satisfaction of all persons concerned prior to the resumption of work (or, if needed, after additional investigation and corrective actions required to identify and address root causes have been completed), the **importance of follow-up** can be demonstrated by:

- a. providing a learning tool for developing improved training.
- b. establishing new safety procedures.
- c. facilitating sharing of learning.

#### Responsibilities:

**Employee:** Initiate a stop work intervention when warranted.

**Supervisor/competent person:** notify all affected personnel and supervision of the stop work issue, correct the issue, and resume work when safe to do so.

**Management:** Establish a culture where stop work authority is exercised freely.

Employees, while fulfilling their **obligation** to stop work when warranted, are reminded that under no circumstances will fulfilling this obligation result in any form of retribution or intimidation from our company or the company for whom we are working

This Policy Statement will be conspicuously posted.

---

Eric Rogers  
Safety Director

**TINC**  
**Section I**  
**General Policies & Procedures**

**Standards:**

[29 CFR 1904 - Recordkeeping](#)

## **Safety Program Overview**

This comprehensive safety & health training program has been developed to address our specific safety concerns and to provide guidance for the performance of individual job tasks within the framework of appropriate Occupational Safety & Health Administration (OSHA) standards.

Safety demands a commitment from all personnel within TINC. We have an obligation to ensure that all our employees are afforded the protection of an appropriate safety & health program.

Hazard assessment, pre-planning, and engineering controls, where feasible, will be the preferred method of providing a safe workplace. Hazards that remain will be minimized or eliminated through training which provides our employees the ability to recognize workplace hazards and understand the proper procedural and/or personal protective equipment requirements.

Each employee is encouraged to contact their supervisor immediately should a safety or health risk exist so that corrective action may be taken to eliminate the hazard entirely or deal with the hazard in a safe manner through modified work procedures, PPE, and/or other appropriate action.

Eric Rogers, our Safety Director, or a designated competent person will make routine and random inspections to both identify new hazards and to monitor the effectiveness of our safety & health program.

In the final analysis, the success of our safety effort depends on all employees from senior management to the newest hire demonstrating a commitment to safety by working in a safe manner. Safe job performance is how our safety effort is ultimately measured.

## **Accident/Injury Prevention**

Our safety program is designed so that our employees do not work in conditions that are unsanitary, hazardous, or dangerous to their health or safety.

One lax moment in terms of safety may result in a lifetime of needless pain and suffering. Disregarding safety standards may even be fatal. While an accident may happen in an instant, the consequences may last for years.

Accident prevention requires a commitment from all personnel within our company to actively participate in our safety program. All personnel should be aware of workplace-related hazards and follow procedures to eliminate these hazards by using proper work methods, use of personal protective equipment, and proper use of tools and equipment. All persons are encouraged to ask questions and make positive suggestions for safety improvement.

Competent persons will be designated to provide workplace expertise, as well as regular inspections of equipment, materials, and procedures.

Competent persons will have the authority to stop work if a safety hazard is identified and it cannot be corrected immediately.

All machinery, tools, materials, and equipment deemed unsafe will be taken out of service by physically removing, tagging, or locking controls to render them inoperable.

Only persons qualified by training or experience will be allowed to operate equipment or machinery.

All tools and items of equipment will be used for the purpose for which they were designed. For example, a wrench is not a hammer, a ladder is not a horizontal plank, and a fire extinguisher is not a cooler!

Never take chances or attempt any procedure without being aware of the proper methods, the potential safety hazards, and the methods to reduce or eliminate risk.

## **Company Personnel**

The following are descriptions of the different roles and expectations for all personnel of TINC.

### **Safety Director**

The safety director at TINC is Eric Rogers and has overall responsibility for the implementation of our program. Eric Rogers will ensure each employee has appropriate safety training for the tasks to be performed.

Additionally, Eric Rogers will perform hazard assessments of the workplace to determine if hazards are present, or are likely to be present, which will necessitate the use of personal protective equipment (PPE).

Identified hazards which cannot be eliminated through engineering controls or changes in procedures will be addressed by the use of selected PPE.

While the responsibilities of Eric Rogers cannot be further delegated, most of the duties can be assigned to those who are competent persons by virtue of training or experience.

### **Safety Program Administrator**

Matt Melander, the safety program administrator, has deemed competent by our Safety Director and may perform the below duties:

- a. The actual training of personnel.
- b. Maintenance of training records.
- c. Random inspections to verify adherence to safety rules and policies.
- d. Completion of specific tasks identified within our OSHA compliance programs.
- e. Hazard assessments.

Note: The safety director and the safety program administrator may or may not be the same person.

### **Employees**

All employees are required to participate actively in the safety & health program at TINC. Do not hesitate to point out perceived safety deficiencies to your supervisor or the competent person – you may prevent an injury to yourself or a fellow worker. With the goal of providing a safer workplace for all of us, employee suggestions for improving safety management are welcomed and encouraged. Never perform a task when you don't understand all of the safety procedures. If in doubt, ask your immediate supervisor for guidance.

## **Safety Meetings**

Scheduled safety meetings provide an opportunity for reinforcing the importance of general safety as well as specific work-related procedures applicable to the work at hand.

Properly prepared safety meetings will focus on one or two topics and be direct and to the point. All safety questions will be addressed, and interactive participation is encouraged.

## **Housekeeping**

Housekeeping? What's that all about? It's about safety!

Employees are to maintain a neat and orderly work area as far as practical.

Housekeeping and general cleanliness have a direct effect on safety and health.

Proper housekeeping can prevent slips and falls, allow easy egress in the event of an emergency, prevent falling object injuries, and enhance fire safety. Below listed are general housekeeping rules:

- a. All areas of the workplace - passageways, storerooms, service rooms, and walking-working surfaces – will be kept in a clean, orderly, and sanitary condition.
- b. Walking-working surfaces will be maintained free of hazards such as sharp or protruding objects, loose boards, corrosion, leaks, spills, snow, and ice.
- c. Stored materials will be neatly stacked.
- d. Containers, when not in use, will be sealed.
- e. No objects will be left unattended on stairways.
- f. Entrances and exits will be properly marked and not blocked.
- g. Tools will be properly cleaned and put away after use.
- h. The floor of each workroom will be maintained in a clean and, to the extent feasible, dry condition. When wet processes are used, drainage must be maintained and, to the extent feasible, dry standing places, such as false floors, platforms, and mats must be provided.

## Safe Office Practices

When employees are working in areas such as offices, warehouses, storage areas, garages, etc., compliance with the below safety practices/procedures is mandatory. Supervisors will insist that the safety practices and procedures are observed and are expected to take disciplinary action against employees for non-compliance.

Employees must:

- a. Report all unsafe conditions and equipment to their supervisor or Matt Melander, our safety program administrator.
- b. Report all incidents, injuries and illnesses to their supervisor or Matt Melander immediately.
- c. Keep means of egress unblocked, well-lit, and unlocked during work hours.
- d. Sound the alarm and evacuate in the event of fire.
- e. Upon hearing fire alarm, stop work and proceed to the nearest clear exit and then gather at the designated muster location.
- f. Not attempt to respond to a fire or other emergency unless trained to do so.
- g. Keep stairways clear of items that can be tripped over.
- h. Not store combustibles under stairways that are egress routes.
- i. Not store materials and equipment against doors or exits, fire ladders or fire extinguisher stations.
- j. Keep aisles clear at all times.
- k. Maintain work areas in a neat, orderly manner. Place trash and refuse into proper waste containers.
- l. Wipe up all spills promptly.
- m. Store files and supplies in such a manner as to preclude damage to the supplies or injury to personnel when they are moved. Heaviest items should be stored closest to the floor and lightweight items stored above.
- n. Ensure all cords running into walk areas are taped down or inserted through rubber protectors to preclude them from becoming tripping hazards.
- o. Never stack material precariously on top of lockers, file cabinets or other high places.
- p. Never leave desk or cabinet drawers open that present a tripping hazard. Use care when opening and closing drawers to avoid pinching fingers.
- q. Not open more than one upper drawer at a time, particularly the top two drawers on tall file cabinets.
- r. Always use the proper lifting techniques. Never attempt to lift or push an object which is too heavy. Contact your supervisor when help is needed to move a heavy object.
- s. Exercise caution when carrying material to ensure firm footing and clear line of sight.
- t. Plug all electrical equipment into appropriate wall receptacles or into an extension of only one cord of similar size and capacity. Three- pronged plugs should be used to ensure continuity of ground.

- u. Keep individual heaters at work areas clear of combustible materials such as drapes or waste from waste baskets. Heaters which are equipped with tip over switches should be used.
- v. Keep appliances such as coffee pots and microwaves in working order and inspected for signs of wear, heat, or fraying of cords.
- w. Ensure fans used in work areas are guarded. Guards must not allow fingers to be inserted through the mesh. All fans must be equipped with proper guards which have openings of ½ inch or less.
- x. Use equipment such as scissors, staplers, etc. for their intended purposes only. They are not to be used as hammers, pry bars, screwdrivers, etc. Misuse can cause damage to the equipment and possible injury to the user.
- y. Store cleaning supplies away from edible items on kitchen shelves.
- z. Store cleaning solvents and flammable liquids in appropriate containers.
- aa. Keep solutions that may be poisonous or not intended for consumption in well-labeled containers.
- ab. Not remove or deface equipment or product ANSI or other warning signs/symbols and they must heed their warnings.
- ac. Ensure owner's manuals for office equipment are readily available.
- ad. Ensure a list of hazardous chemicals, if applicable, and SDS are readily available.

The above list is not all inclusive. Employees are encouraged to suggest additional safety ideas and/or procedures to Eric Rogers, our Safety Director for inclusion in weekly safety meetings.

## **Lifting, Pushing, and Pulling**

Back injuries are often caused by the obvious – putting excessive strain on the lower back by lifting an object that is too heavy or awkward, or by bending and/or twisting while lifting.

However, lifting injuries are also caused by less obvious reasons:

- a. Poor physical condition
- b. Poor posture
- c. Poor judgment (lifting, pulling, pushing an object that is obviously too heavy or awkward without seeking assistance or a mechanical lifting device.)
- d. Lack of exercise
- e. Excessive body weight

Proper lifting techniques are important for employee safety. Below are lifting techniques that will reduce the likelihood of injury:

- a. Lift objects comfortably, not necessarily the quickest or easiest way.
- b. Lift, push, and pull with your legs, not your arms or back.
- c. When changing direction while moving an object, turn with your feet, not by twisting at the waist.
- d. Avoid lifting higher than your shoulder height.
- e. When standing while working, stand straight.
- f. When walking, maintain an erect posture; wear slip-resistant, supportive shoes.
- g. When carrying heavy objects, carry them close to the body and avoid carrying them in one hand.
- h. When heavy or bulky objects need to be moved, obtain help or use a mechanical aid such as a dolly, hand truck, forklift, etc.
- i. When stepping down from a height of more than eight inches, step down backwards, not forward.
- j. Handle heavy objects close to the body – avoid reaching out.
- k. Lift gradually and smoothly. Avoid jerky motions.
- l. Maintain a clear line of vision.

## **Slips, Trips, and Falls**

Slips, trips, and falls are among the most common occupational accidents and they are easily preventable. Below are some of the causes of slips, trips, and falls:

- a. Running at the workplace.
- b. Engaging in horseplay.
- c. Working off a ladder that is not firmly positioned.
- d. Carrying an object that blocks line of vision.
- e. Work boots not laced or buckled.
- f. Working off a scaffold without safety rails.
- g. Using ladders that have oil and grease on the rungs.
- h. Not using a handrail on steps.
- i. Messy work areas with debris strewn about.
- j. Not paying attention to what one is doing.

This list can go on and on, but all of the above are easily preventable by adherence to common safety procedures, common sense, and awareness of potential hazards.

## **Drugs, Alcohol, and Other Prohibited Behaviors**

### **Drug Free Workplace**

Because the type of work we perform can result in serious injury if employees are not capable of focusing not only on their job task, but their surroundings and others with whom they work, it is the policy of TINC to hire only persons free from any evidence of illegal use of controlled substances or other drugs including alcohol.

**Note:** OSHA has determined that drug testing after injuries or illnesses that occur at the workplace can be considered retaliatory or discriminatory, and thus discourage employees from properly reporting the injury or illness. This can be the case in situations where the injury or illness wouldn't have been reasonably expected to be the result of impairment.

**Example:** A bee sting that results in an allergic reaction and leads to a stay at the hospital. There is not a reasonable belief that a bee sting would be caused by impairment and thus drug testing would be considered retaliatory or discriminatory.

With the exception of over the counter drugs such as aspirin or drugs prescribed by a physician, there will be no drugs or alcohol within our facility. Alcohol and drug abuse cause an unacceptable level of safety hazard not only for the offending employee, but for others in the vicinity. Those found to be under the influence of drugs and/or alcohol will be immediately removed from the work area by the competent person and further disciplinary action will be taken by Eric Rogers, our Safety Director.

Chemical dependency is a devastating problem for not only the employee, but also the employee's family and co-workers. For obvious safety reasons, it cannot be tolerated in the workplace. Those with such a problem should seek professional help. Eric Rogers will assist any employee in finding appropriate treatment should they voluntarily come forward.

### **Smoking**

There will be no smoking except in designated smoking areas. Under no circumstances will there be smoking during refueling of vehicles or within 50 feet of flammable materials.

## **Prohibited Behaviors**

The use, bringing onto company property, possession, concealment, transportation, promotion or sale of the following substances or items by any employee of the below items is strictly prohibited:

- a. Illegal drugs, unauthorized controlled substances, look-a-likes, designer, synthetic or any other drug which may affect an employee's motor functions or alter a person's working perception.
- b. Prescription drugs/over the counter medication except under the following conditions:
  - 1. The employee will inform his supervisor prior to using any prescription drug or over the counter medication and receive written permission to possess such drug while working.
  - 2. The prescription vial will be labeled by the dispensing pharmacy and the label will show the employees name, physician, prescription number, date the prescription was filled and the dosage rate. Prescriptions more than 30 days old will not be allowed.
  - 3. The over the counter medication will be in its original package or container.
  - 4. The employee may only possess enough medication for his normal shift.
- c. Alcoholic beverages.
- d. Firearms, weapons, explosives, and ammunition.
- e. Unauthorized items such as stolen property.

## Workplace Violence

Although OSHA does not have any standards concerning workplace violence, to comply with Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970, which requires us to provide our employees with a place of employment that is free from recognizable hazards that are causing or likely to cause death or serious harm to our employees, we are employing this policy regarding workplace violence.

Workplace violence can be defined as: “any act or threat of physical violence, harassment, intimidation, or other threatening disruptive behavior that occurs at the work site.” Keep in mind actions such as shouting, swearing, and destroying or throwing items could be considered workplace violence if the complaining employee feels their safety is in jeopardy.

The CDC identifies 4 types of workplace violence:

- a. Criminal Intent - workplace violence occurring during the process of criminal activity (e.g., robbery)
- b. Customer/Client - workplace violence targeting an employee of a business by a customer/client
- c. Worker-on-Worker - workplace violence occurring between two (2) employees
- d. Personal Relationship - workplace violence occurring between an employee and a personal acquaintance who has no ties to the workplace.

When possible and applicable, we will implement recommended engineering and administrative controls to prevent or reduce the likelihood of all types of workplace violence. Some of these controls may include, but are not limited to:

- a. Lighting controls
- b. Surveillance (e.g., cameras, mirrors)
- c. Establishing a good relationship with local police
- d. Training on specific workplace violence events, such as responding to an active shooter
- e. Performing appropriate background checks and reference verification on new hires

In the event that our employees are exposed to workplace violence instigated by acts of our employees or others, the following steps will be taken immediately:

- a. Those not directly threatened or exposed to the violent acts will immediately warn others and remove themselves from the area. Call 911, or local police authorities, when you've reached a point of safety.
- b. If you feel you are about to become a victim of workplace violence and you do not have the opportunity to flee, try to remain calm. Do nothing threatening. At the first opportunity, seek safety and call 911 or local police authorities.

Any employee who is a victim of any type of workplace violence, physical or verbal, is to immediately notify his or her supervisor. If an employee's direct supervisor is the offender, the employee should go to the next level of management. Violent actions that result in injury will be reported to the police without exception.

An internal investigation will begin immediately and will include interviews with involved parties, including potential witnesses. When possible, we will do our best to maintain privacy during the investigation and follow-up response. Our company expressly prohibits retaliation of any kind against any employee bringing a complaint or assisting in the investigation of a complaint. Such employees may not be adversely affected in any manner related to their employment. Retaliation is also illegal under federal law.

Any breach of workplace behavior that leads to a violent action against another employee will be treated as a serious safety violation subject to extreme corrective action, up to and including termination.

## **Emergency Action Plan**

An Emergency Action Plan, if appropriate, will be posted along with emergency telephone numbers and an escape route diagram.

After a hazard assessment of our facilities, Eric Rogers, our Safety Director, may determine that conditions may develop that could possibly warrant an evacuation. In this case an emergency action plan will be developed to address the threat.

Events may occur which dictate the evacuation of our facility such as a fire, explosion, power failure, etc. Additionally, events may occur which dictate the need for emergency medical responders. These sets of events fall under our Emergency Action Plan and a multitude of objectives must be met.

The first and foremost objective is the safety of all our personnel. To achieve this level of safety, our plan is designed to get personnel away from danger, treat injury, and provide for a thorough and accurate accounting of all employees.

There may be situations where certain employees, trained in first aid and/or firefighting procedures, may prevent a small emergency situation from becoming a major disaster. In these types of situations, specifically identified employees will remain to perform the function for which they are trained, provided they may perform these duties in a safe manner. At no time will any employee put himself/herself at risk.

To the extent possible, all personnel will have clear, direct egress.

The actual implementation of this plan must be direct and carried out without confusion.

Employees must know how to alert others, how to call for assistance, the location of fire extinguishers and first aid kits, the escape route, and the rendezvous point (being accounted for so that others do not put themselves at risk looking for a person who has already reached safety).

## **Emergency Medical Response**

Should an injury occur that requires an emergency medical responder, the below listed actions will be taken in the order given:

- a. Call 911 or the emergency response number posted at the workplace.
  1. In the absence of 911 services, the telephone numbers of physicians, hospitals, or ambulances will be conspicuously posted with our emergency phone numbers. The method of contacting emergency services must be effective at the required location and should be tested to ensure reliability.
  2. In remote areas that do not have automatic location capability for 911, we will post either the latitude and longitude of the worksite or other location identification information that effectively communicates the location of the worksite in a conspicuous location.
- b. Provide any medical assistance you are trained and certified to do. DO NOT provide any medical assistance you are not trained to do.
- c. Designate an individual to direct the emergency responders to the injured person and provide Safety Data Sheets, if applicable.
- d. Notify the competent person who, in turn, will notify the office.

## **Fire Protection**

The phone number of the local fire department will be posted with other emergency numbers.

If a fire should occur, all personnel and the local fire department will be notified. As in all emergency situations, per the American Trauma Society, people calling the fire department should:

- a. Remain calm
- b. Speak clearly and slowly
- c. Give the exact location
- d. Describe the situation
- e. Give the phone number from where you are calling.
- f. Do not hang up until told to do so

## Fire Prevention Plan

Fire Prevention deals not with handling a fire emergency, but rather preventing a fire in the first place.

To reduce the likelihood of a fire, personnel are to adhere to the following rules:

- a. Smoking is allowed only in designated areas and smoking materials will be totally extinguished and placed in the appropriate receptacles.
- b. All chemical products will be handled and stored in accordance with the procedures noted on their individual SDS.
- c. Heat producing equipment will be properly maintained and operated per the manufacturer's instructions to prevent accidental ignition of combustible materials.
- d. Precautions will be taken when working with an open flame (such as welding) and those areas will be made fire safe by removing or protecting combustibles from ignition.
- e. Combustible liquids must be stored in approved containers.
- f. Chemical spills must be cleaned up immediately. This is particularly important for combustible and reactive liquids. Damaged chemical containers and cleanup materials must be properly disposed.

**Note: Information on appropriate personal protective equipment, proper disposal, proper cleanup procedures, required ventilation, etc. is found on the product's SDS.**

- g. Combustible liquids and trash must be segregated and kept from ignition sources.
- h. Keep clear access to fire hydrants as well as portable fire extinguishers.
- i. Personnel will be notified by their Supervisor or the competent person of any unusual fire hazard conditions.
- j. Good housekeeping, good housekeeping!

## Portable Fire Extinguishers

All personnel will receive instruction on the proper use of fire extinguishers.

- a. Fire extinguishers will be inspected monthly for general conditions and adequate charge. They will be serviced and certified by qualified personnel at least annually.
- b. Portable fire extinguisher locations will be clearly identified and easily accessible.

Portable fire extinguishers will be distributed as indicated below:

Class	Distribution	Notes
A “A” on a green triangle	75 feet or less travel distance between the employee and the extinguisher	For use on wood, paper, trash, etc.
B “B” on a red square	50 feet or less travel distance between hazard area and the extinguisher	For use on flammable liquid, gas, etc.
C “C” on a blue circle	Based on the appropriate pattern for the existing Class A or Class B hazards	For use on electrical fires
D “D” on a yellow star	75 feet or less travel distance between the combustible metal working area and the extinguisher or other containers or Class D extinguishing agent	For use on combustible metals

Appropriate portable fire extinguishers will be used, as noted above. Supervisors will ensure that at least one extinguisher is on each floor of a project near the stairway.

Using the wrong fire extinguisher on some fires can actually spread the fire. Using a Type-A extinguisher on an electrical fire, for example, could cause serious injury. When a fire occurs, it is imperative to use the proper extinguisher.

## First Aid and First Aid Kits

Should a medical emergency occur, other than minor scrapes and bruises, and it is serious enough to call for professional medical assistance, you should call the Emergency Response Number posted on the bulletin board. Before the first aid providers arrive, to the extent possible, clear the way so they can reach the injured employee in the most direct way possible.

Unless trained and licensed in CPR/first aid and a designated first aid provider as an additional job as part of the company bloodborne pathogen program, employees will not expose themselves to blood or other bodily fluids of other employees at any time.

Per OSHA, first aid is limited to:

- a. Using a non-prescription medication, such as aspirin, at non-prescription strength.
- b. Cleaning, flushing or soaking wounds on the surface of the skin;
- c. Using wound coverings such as bandages, Band-Aids™, gauze pads, etc., or using butterfly bandages or Steri-Strips™.
- d. Using hot or cold therapy.
- e. Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.
- f. Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).
- g. Draining fluid from a blister.
- h. Using eye patches.
- i. Removing foreign bodies from the eye using only irrigation or a cotton swab.
- j. Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.
- k. Using finger guards.
- l. Using massages.
- m. Drinking fluids for relief of heat stress.

If an employee is injured and emergency responders have been called, stay calm and reassure the injured employee that help is coming.

Below is basic first aid for various common workplace injuries. Mostly, it is what **not** to do. When dealing with any injury, stay calm and never do anything unless you know what you are doing.

### MINOR BURNS

(Redness or blisters over a small area)

Flush with cold water; apply a sterile dressing.

**Do not** use butter on any burn.

**Do not** break open blisters.

## MAJOR BURNS

(White or charred skin; blisters and redness over a large area; burns on face, hands, or genital area)

Cover with sterile dressing and seek medical attention promptly.

**Do not** apply salves, ointments or anything else.

**Do not** break blisters.

## CHEMICAL BURNS

(Spilled liquid or dry chemical on skin)

Liquid: Flush with large amounts of water immediately (Keep water flow gentle).

Dry: Brush as much off as possible before flushing with water. After flushing at least 5 minutes, cover with sterile dressing.

Seek medical attention promptly.

**Do not** use anything but water on burned area.

**Do not** break open blisters.

## EYE - FOREIGN OBJECT

(Object visible; feeling of something in the eye)

Have patient pull upper eyelid over lower eyelid.

Run plain water over eye.

If object does not wash out, cover both eyes with a gauze dressing.

Seek medical attention promptly.

**Do not** rub the eye.

## EYE - WOUNDS

(Wound on eyelid or eyeball; pain; history of blow to eye area; discoloration)

Apply loose sterile dressing over both eyes.

Seek medical help immediately.

For bruising, cold compress or ice pack may relieve pain and reduce swelling.

**Do not** try to remove any embedded object.

**Do not** apply pressure to eye.

## EYE - CHEMICAL BURN

(Chemical splashed or spilled in eye)

Flush immediately with water over open eye for at least 10 minutes

(20 minutes if alkali). It may be necessary to hold patient's eyelid open.

**Note:** In work situations where a possibility of eye (or body) exposure to corrosive materials exists, suitable facilities for quick-drenching or flushing will be provided in the immediate work area.

Cover both eyes with sterile dressing.

Seek medical help immediately.

**Do not** put anything but water in eye.

## HEAT EXHAUSTION

(Fatigue; weakness; profuse sweating; normal temperature;  
pale clammy skin; headache; cramps; vomiting; fainting)

Remove from hot area.

Have victim lay down and raise feet. Apply cool wet cloths.

Loosen or remove clothing.

Allow small sips of water if victim is not vomiting.

## HEAT STROKE

(Dizziness; nausea; severe headache; hot dry skin;  
confusion; collapse; delirium; coma and death)

Call for immediate medical assistance.

Remove victim from hot area.

Remove clothing. Have victim lay down.

Cool the body (shower, cool wet cloths)

**Do not** give stimulants.

### **First Aid Kits:**

First aid kits are worthless if not readily accessible. Therefore, they will not be locked up at the workplace. They're also not very valuable if the items you need are missing. It's very important that the kits have the proper items and that they are replenished as they are used.

OSHA defers to ANSI for determining what qualifies as an acceptable first aid kit for the workplace. The ANSI standard that addresses first aid kits is ANSI/ISEA Z308.1-2015. Two important topics covered in this standard are what items are required to be included in a first aid kit: Class, and in what kind of container the kit is kept: Type.

### **Class**

There are two classes of first aid kits: Class A and Class B. The two classes are divided based on the type of first aid items included and the number of those items available in the kit. ANSI has defined the classes as follows:

Class A first aid kits are intended to provide a basic range of products to deal with the most common types of injuries encountered in the workplace including: major wounds, minor wounds (cuts and abrasions), minor burns and eye injuries.

Class B first aid kits are intended to provide a broader range and quantity of supplies to deal with injuries encountered in more populated, complex and/or high-risk work environments.

The biggest difference between the classes of first aid kits is the amount of items included in the kit. Class B kits have more of each item and are needed at a workplace that has many workers.

Keep in mind that sterile items will be individually wrapped, sealed, and used only once. Other items, such as tape or scissors, can be reused and should be kept clean.

The supplies consumed in first aid kits can actually be used as a measure of safety. For example, if a kit constantly needs replacement of bandages used for minor cuts, there is an obvious problem. Why are cuts happening in the first place? Actual trends can be established, and corrective procedures initiated, such as a protective glove requirement or improved handling practices.

Remember, improper medical treatment can be more dangerous than no treatment at all. Only provide care that you have been trained and certified to do.

Below are the required contents, items and quantities of Class A and B first aid kits:

<b>Class A</b>	<b>Class B</b>
16 Adhesive Bandage 1 x 3 in.	50 Adhesive Bandage 1 x 3 in.
1 Adhesive Tape 2.5 yd (total)	2 Adhesive Tape 2.5 yd (total)
10 Antibiotic Application 1/57 oz	25 Antibiotic Application 1/57 oz
10 Antiseptic 1/57 oz	50 Antiseptic 1/57 oz
1 Breathing Barrier	1 Breathing Barrier
1 Burn Dressing (gel soaked) 4 x 4 in.	2 Burn Dressing (gel soaked) 4 x 4 in.
10 Burn Treatment 1/32 oz	25 Burn Treatment 1/32 oz.
1 Cold Pack 4 x 5 in.	2 Cold Pack 4 x 5 in.
2 Eye Covering w/ means of attachment 2.9 sq. in.	2 Eye Covering w/ means of attachment 2.9 sq. in.
1 Eye/Skin Wash 1 fl oz total	1 Eye/Skin Wash 4 fl. oz. total
1 First Aid Guide	1 First Aid Guide
6 Hand Sanitizer 1/32 oz	10 Hand Sanitizer 1/32 oz
2 pr Medical Exam Gloves	4 pr Medical Exam Gloves
1 Roller Bandage 2 in. x 4 yd	2 Roller Bandage 2 in. x 4 yd
1 Scissors	1 Roller Bandage 4 in. x 4 yd
2 Sterile pad 3 x 3 in.	1 Scissors
2 Trauma pad 5 x 9 in.	1 Splint
1 Triangular Bandage 40 x 40 x 56 in.	4 Sterile pad 3 x 3 in.
	1 Tourniquet
	4 Trauma pad 5 x 9 in.
	2 Triangular Bandage 40 x 40 x 56 in.

## Type

As important as the contents are, the first aid kit won't be very useful if it's not properly protected from the workplace environment. If the supplies are soaked from rain or smashed from being tossed around, they just won't be able to provide any help when needed. ANSI has addressed this by providing guidelines for the containers that first aid kits can be stored in at the workplace.

They are broken down into four categories: **Type I, Type II, Type III, & Type IV.** Here are the descriptions that ANSI provides for each type.

Type I first aid kits are intended for use in stationary, indoor settings where the potential for damage of kit supplies due to environmental factors and rough handling is minimal. Type I first aid kits will have a means for mounting in a fixed position and are generally not intended to be portable.

**Note: Typical applications for Type I first aid kits may include, but are not limited to, the following: general indoor use, an office setting or a manufacturing facility. First aid cabinets would generally fall into the Type I classification.**

Type II first aid kits are intended for portable use in indoor settings where the potential for damage of kit supplies due to environmental factors and rough handling is minimal.

**Note: Typical applications for Type II first aid kits may include, but are not limited to, the following: general indoor use, an office setting or a manufacturing facility.**

Type III first aid kits are intended for portable use in mobile, indoor and/or outdoor settings where the potential for damage of kit supplies due to environmental factors is not probable. Type III kits will have a means to be mounted in a fixed position and will have a water-resistant seal.

**Note: Typical applications for Type III first aid kits may include general indoor use and sheltered outdoor use.**

Type IV first aid kits are intended for portable use in the mobile industries and/or outdoor settings where the potential for damage to kit supplies due to environmental factors and rough handling is significant. Type IV kits will have a means to be mounted in a fixed position and will meet the performance requirements set forth by ANSI.

**Note: Typical applications for Type IV first aid kits may include, but are not limited to, the following: the transportation industry, the utility industry, the construction industry, and the armed forces.**

## **Accident Investigation**

The purpose of Accident Investigation is to prevent the same type of accident from reoccurring. An accident investigation will begin immediately after the medical crisis is resolved. The supervisor /competent person will complete an Accident Investigation Form as soon as feasible. The five questions that must be answered are: Who? What? When? Where? And most importantly, why did the accident happen?

An apparently simple accident may actually be caused by many complex reasons. Example: an employee gets a finger crushed in a piece of machinery. With just the facts presented, the fault would seem to totally rest with the employee whose finger was hurt.

An accident investigation may reveal other contributing factors by answering questions like:

- a. Were machine guards in place? Had they been altered in an unauthorized manner to make them ineffective?
- b. Were gloves required and were they available?
- c. Was the machinery improperly locked or tagged out of service with residual hazardous energy remaining in its system?
- d. Had the employee received training on operating the specific machine and been given an opportunity to clarify questions concerning its operation?
- e. Was there adequate supervision?
  1. Did the supervisor perform regular and frequent inspections of the operations in question?
  2. Had this employee or others, operated the machine incorrectly over a period of time so that the improper method became the standard method?
  3. Were violations of safety procedures documented?

After determining the cause of the accident, steps can be taken to prevent a reoccurrence. Near-miss mishaps, events which result in no injury or damage, should be investigated because even though the outcomes are different, the causes are the same.

## **Recordkeeping: Injuries & Illnesses**

### **OSHA Forms 300; 300A & 301**

As a matter of law, all employers with 11 or more employees **at any one time** in the previous year must maintain OSHA Form 300, *Log of Work-Related Injuries and Illnesses*, OSHA Form 301, *Injury and Illness Incident Report*, and OSHA Form 300A, *Summary of Work-Related Injuries and Illnesses*.

OSHA Forms 300 and 301 are used to record and classify occupational injuries and illnesses. The information on the OSHA Form 300 is related to employee health and must be used in a manner that protects the confidentiality of the employees to the extent possible. Recordable injuries and illnesses must be entered on OSHA Forms 300 and 301 within seven (7) days of receiving information that a recordable injury or illness has occurred.

### **Electronic Submission of Records**

Effective February 25<sup>th</sup>, 2019, certain employers are required to electronically submit injury and illness data from their OSHA Form 300A Summary of Work-Related Injuries and Illnesses to OSHA. This includes all employers with 250 or more employees and

employers with 20-249 employees who have a NAICS code listed in Appendix A to Subpart E of Part 1904 - Recording and Reporting Occupational Injuries and Illness.

**[Click here to see Appendix A.](#)**

**Note:** Contact your local worker's compensation office if you're uncertain of your NAICS code.

If TINC is required to submit records electronically, the information from our 300A must be submitted by March 2 of the following year (for example, 2018 data must be submitted by March 2, 2019).

OSHA provides a secure website that offers three options for data submission:

- a. Users will be able to manually enter data into a webform.
- b. Users will be able to upload a CSV file.
- c. Users will have the ability to transmit data electronically via an API if they have an automated recordkeeping system.

**[Click Here to Access the Injury Tracking Application](#)**

### **Retention of Forms:**

Old OSHA Forms 101 and 200, as well as OSHA Forms 300, 300A, and 301, will be retained for five years following the year to which they relate.

### **Items to be recorded on OSHA Forms 300, 300A and 301:**

Work related injuries and illnesses and fatalities are to be recorded using the criteria found in Part 1904, *Recording and Reporting Occupational Injuries and Illnesses*.

Injuries and illnesses must be recorded if they result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or if the injury or illness involves a significant injury diagnosed by a physician or licensed health care professional even if it does not meet the forgoing conditions.

**Note:** First aid (which is not reportable) is defined in 29 CFR 1904.7(b)(5)ii.

## **Employee Involvement:**

As an employee, you have the right and responsibility to report all work-related injuries and illness without the fear of being retaliated against, discriminated against, or terminated from employment.

**Note:** OSHA has determined that drug testing after injuries or illnesses that occur at the workplace can be considered retaliatory or discriminatory, and thus discourages employees from properly reporting the injury or illness. This can be the case in situations where the injury or illness wouldn't have been reasonably expected to be the result of impairment.

**Example:** A bee sting that results in an allergic reaction and leads to a stay at the hospital. There is not a reasonable belief that a bee sting would be caused by impairment and thus drug testing would be considered retaliatory or discriminatory.

As a matter of policy, all employees are to report all work-related accidents and injuries immediately to the competent person/supervisor at the workplace. The competent person/supervisor will complete an accident investigation form and will forward it to Eric Rogers, the Safety Director.

Eric Rogers will extrapolate appropriate information for completion of the OSHA Form 300 and complete a review of our policies and procedures to help ensure that there isn't a reoccurrence of the reported injury or illness.

Failure to report injuries or illnesses would be a violation of our company's reporting policy and is not acceptable.

## **Catastrophic Reporting Requirements:**

The following events have to be reported to OSHA:

- a. All work-related fatalities
- b. All work-related in-patient hospitalizations of one or more employees
- c. All work-related amputations
- d. All work-related losses of an eye

TINC must report work-related fatalities within 8 hours of finding out about it. For any in-patient hospitalization, amputation, or eye loss, we must report the incident within 24 hours of learning about it.

Only fatalities occurring within 30 days of the work-related incident must be reported to OSHA. Further, an inpatient hospitalization, amputation or loss of an eye incident must be reported to OSHA only if they occur within 24 hours of the work-related incident.

There are three options for reporting the event:

- a. By telephone to the nearest OSHA Area Office during normal business hours. The phone numbers can be found at the following website: <https://www.osha.gov/html/RAMap.html>.
- b. By telephone to the 24-hour OSHA hotline (**1-800-321-OSHA or 1-800-321-6742**).
- c. By using OSHA's new means of reporting events electronically. This can be done online at the following website: <https://www.osha.gov/pls/ser/serform.html>.

### **Information to Be Reported:**

When reporting a fatality, in-patient hospitalization, amputation or loss of an eye to OSHA, following information must be reported:

- a. Establishment name
- b. Location of the work-related incident
- c. Time of the work-related incident
- d. Type of reportable event (i.e., fatality, in-patient hospitalization, amputation or loss of an eye)
- e. Number of employees who suffered the event
- f. Names of the employees who suffered the event
- g. Contact person and his or her phone number
- h. Brief description of the work-related incident

**Note:** An event does not have to be reported if it:

- a. Resulted from a motor vehicle accident on a public street or highway, except in a construction work zone; employers must report the event if it happened in a construction work zone.
- b. Occurred on a commercial or public transportation system (airplane, subway, bus, ferry, street car, light rail, train).
- c. Occurred more than 30 days after the work-related incident in the case of a fatality or more than 24 hours after the work-related incident in the case of an in-patient hospitalization, amputation, or loss of an eye.

**Note:** TINC must report an in-patient hospitalization due to a heart attack, if the heart attack resulted from a work-related incident.

### **Location of OSHA Forms 300 and 301:**

As a general rule, the OSHA Forms 300 and 301 will be maintained in our main office.

### **Incident Rate:**

One indication of the success of the safety effort put forth by TINC is our “incidence rate”. When bidding a job, our incidence rate could be a determining factor in a successful bid. The incidence rate is determined by the following formula:

**$N/EH \times 200,000$  where:**

N = number of injuries and/or illnesses

EH = total hours worked by all employees during the calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

**To find the “Lost Workday Injury Rate” (LWDI), the following formula is used:**

$WDI\ Rate = (\# \text{ LWDI's} \times 200,000) / \# \text{ employee hours worked}$

# LWDI = sum of LWDI's in reference years

# employee hours worked = sum of employee hours in reference years

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year)

When accidents and injuries occur, they have an immediate detrimental impact on those employees involved. Additionally, they have a potential lingering negative impact on our company and our ability to get work.

## **Postings**

There will be a prominently displayed bulletin board or area for postings. Every employee must be aware of this policy. Certain postings are required as a matter of law in all cases and other postings are required depending on circumstances and types of work being done.

In all cases, the following must be posted to meet OSHA requirements:

- a. OSHA Form 3165, It's the law!
- b. During the period from 1 February through to April 30, OSHA Form 300A, Summary of Work-Related Injuries and Illnesses, must be posted for work-related injuries and illnesses which have occurred during the previous year.
- c. Emergency phone numbers and site address for emergency response.

If appropriate, the following must be posted:

- a. OSHA citations.
- b. Notice of informal hearing conference.
- c. Names and location of assigned first aid providers.
- e. Emergency action plan.

## **Access to Employee Medical Records & Exposure Records**

### **29 CFR 1910.1020 - Access to employee exposure and medical records**

All employee exposure records and medical records are under the control of Matt Melander, our Safety Program Administrator.

**Exposure Records** must be retained for 30 years.

**Medical Records** must be retained for the duration of employment plus 30 years.

An employee's medical record means: "a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel, or technician."

This would include:

- a. Medical and employment questionnaires or histories (including job description and occupational exposures).
- b. The results of medical examinations (pre-employment, pre- assignment, periodic, or episodic) and laboratory tests (including chest and other X-ray examinations taken for the purpose of establishing a base-line or detecting occupational illnesses) and all biological monitoring not defined as an "employee exposure record".
- c. Medical opinions, diagnoses, progress notes, and recommendations.
- d. First aid records.
- e. Descriptions of treatments and prescriptions.
- f. Employee medical complaints.

**Note:** An employee's medical record does not include:

- a. Physical specimens (e.g., blood or urine samples) which are routinely discarded as a part of normal medical practice.
- b. Records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier (e.g., social security number, payroll number, etc.).
- c. Records created solely in preparation for litigation which are privileged from discovery under the applicable rules of procedure or evidence.
- d. Records concerning voluntary employee assistance programs (alcohol, drug abuse, or personal counseling programs) if maintained separately from the employer's medical program and its records.

An employee's **exposure record** means a record containing any of the following kinds of information:

- a. Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained.
- b. Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (e.g., the level of a chemical in the blood, urine, breath, hair, fingernails, etc.) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs.

- c. Safety data sheets indicating that the material may pose a hazard to human health.
- d. In the absence of the above, a chemical inventory or any other record which reveals where and when used and the identity (e.g., chemical, common, or trade name) of a toxic substance or harmful physical agent.
- e. Objective Data for Exemption from Requirement for Initial Monitoring.

### **Employee Information**

Upon first entering into employment, and at least annually thereafter, each employee will be informed of the following:

- a. The existence, location, and availability of any records covered by 29 CFR 1910.1020.
- b. The person responsible for maintaining and providing access to records (Eric Rogers).
- c. The employee's rights of access to his/her records.
- d. That a copy of 29 CFR 1910.1020 and its appendices will be maintained in Eric Rogers's office and made readily available upon request.

Informational materials concerning access to medical records received from or provided by the Assistant Secretary of Labor for Occupational Safety and Health will be distributed to all current employees.

### **Access to Records**

Employees or their designated representatives will have access to their medical or exposure records within 15 working days of their request, or, if this is not possible, Eric Rogers will provide, within 15 working days, the reason for the delay and provide a best estimate of when the records will be available.

Copies of employee medical or exposure records will be provided in a reasonable time, place, and manner and **at no cost to the employee**.

Upon request, Eric Rogers will provide access to representatives of the Assistant Secretary of Labor for Occupational Safety and Health employee exposure and medical records and to analysis using exposure or medical records.

### **Analysis Using Medical or Exposure Records**

"Analysis using exposure or medical records" means any compilation of data or any statistical study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.

Before access is granted to an analysis using medical or exposure records, all personal identifiers must be removed that could reasonably directly identify the employee. Identifiers would include: name, SSN, address, etc. Identifiers that could indirectly identify the employee will also be removed. These would include date of hire, sex, job title, etc.

## **Confidentiality**

Nothing in the OSHA standards is intended to affect existing legal and ethical obligations concerning the maintenance and confidentiality of employee medical information, the duty to disclose information to a patient/employee or any other aspect of the medical-care relationship, or affect existing legal obligations concerning the protection of trade secret information.

## **Transfer of Records**

Should TINC cease to do business, the successor employer will receive and retain all the above medical and exposure records.

Should TINC cease to do business and there is no successor employer to receive and retain the above medical and exposure records, they will be transmitted to the Director of the National Institute for Occupational Safety and Health (NIOSH).

At the expiration of the retention period for the above medical records, TINC will notify the Director of the NIOSH at least 3 months prior to the disposal of such records and will transmit those records to the Director of the NIOSH if he requests them within that period.

## Enforcement

It is expected that all employees will abide by the safety rules and guidelines that TINC has in place, not only to protect themselves, but also to protect their fellow workers from harm. If a safety violation occurs, the following steps will be taken by the employee's immediate supervisor:

**Minor Safety Violations:** Violations which would **not** reasonably be expected to result in serious injury.

- a. The hazardous situation will be corrected.
- b. The employee will be informed of the correct procedures to follow and the supervisor will ensure that these procedures are understood.
- c. The supervisor will make a written report of the occurrence using the Enforcement Documentation Form and inform the employee that this documentation will be forwarded to Eric Rogers, our Safety Director, for a retention period of one year.
- d. A repeat occurrence of the same minor safety violation is considered substantially more serious than the first.

**Major Safety Violations:** Violations which would reasonably be expected to result in serious injury or death.

- a. The hazardous situation will be corrected.
- b. The employee will be informed of the correct procedures to follow and their supervisor will impress upon the individual the severity of the violation and the likely consequences should this type of violation be repeated. The supervisor will ensure that the individual understands the correct procedures and will be cautioned that a reoccurrence could result in disciplinary action up to and including discharge.
- c. The supervisor will make a written report of the occurrence using the Enforcement Documentation Form and inform the employee that this documentation will be forwarded to Eric Rogers for a retention period of one year.

**Willful Major Safety Violations:** Intentional violation of a safety rule which would reasonably be expected to result in serious injury to the employee or a fellow worker.

- a. The hazardous situation will be corrected.
- b. The employee will be removed from the job site, the event will be documented and forwarded to Eric Rogers, and the employee will be discharged.

Employees are to understand that the primary purpose of documenting safety violations is to ensure that the important business of employee safety is taken seriously and that the potential for injury is reduced to the lowest possible level.

### **Schedule of Enforcement Actions**

#### **Violations Occurring within a 1 Calendar Year Period**

##### **Minor Violation**

<b>Offense</b>	<b>Action</b>	<b>Repeat of Same Offense</b>	<b>Action</b>
1st	Written Notice	1st	1 Day Off
2nd	Written Notice	2nd	3 Days Off
3rd	1 Day Off	3rd	Dismissal
4th	2 Days Off		
5th	3 Days Off		
6th	Dismissal		

##### **Major Violation**

<b>Offense</b>	<b>Action</b>	<b>Repeat of Same Offense</b>	<b>Action</b>
1st	Written Notice	1st	4 Days Off
2nd	2 Days Off	2nd	Dismissal
3rd	4 Days Off		
4th	Dismissal		

**TINC**  
**Section II**  
**Site/Job Specific Policies and Procedures**

## **Abrasive Wheels**

### **29 CFR 1910.215: Abrasive wheel machinery**

Specific technical requirements for operating and using abrasive wheels, either on portable equipment or abrasive wheel machinery, are found in the machine guarding standards noted above. However, there are general precautions and requirements that apply to all abrasive wheel operations.

An abrasive wheel is defined as a cutting tool consisting of abrasive grains held together by organic (resin, rubber, shellac or similar bonding agent) or inorganic bonds. Hazards that present themselves during abrasive wheel operations include physical contact with the rotating wheel; destruction of the wheel, itself; inhalation of the bonding particles; being struck by flying fragments. All these hazards can be eliminated through adherence to appropriate machine guarding principles, hoods and enclosures with an exhaust system, and/or respiratory protection.

Immediately before mounting, wheels must be inspected and sounded (ring test) to ensure they have not been damaged. Ensure the spindle speed does not exceed the maximum operating speed noted on the wheel.

**Ring Test:** Wheel to be tested must be dry and free from sawdust. Wheels should be tapped gently with a light nonmetallic implement, such as the handle of a screwdriver, or a wooden mallet for heavier wheels. If they sound cracked (dead), they may not be used. It should be noted that organic bonded wheels do not emit the same clear metallic ring as do vitrified and silicate wheels. Tap the wheels about 45° each side of the vertical centerline and about one or two inches from the periphery. Rotate the wheel about 45° and repeat the test. A sound, undamaged, wheel will give a clear metallic tone.

## **Aisles**

### **29 CFR 1910.22 - General Requirements**

Permanent aisles and passageways will be clearly marked and kept clear of obstructions. Where mechanical handling equipment is used, sufficient clearance will be provided for aisles, doorways and turns.

## Combustible & Flammable Liquid Handling

Only approved containers and portable tanks will be used for storage and handling of flammable and combustible liquids. Approved safety cans or Department of Transportation approved containers will be used for handling and use of flammable liquids in quantities of 5 gallons or less.

**Note:** The above does not apply to flammable liquid materials which are highly viscid (extremely hard to pour) which may be used and handled in their original shipping containers.

**Note:** For quantities of one gallon or less, the original container may be used for storage, use and handling.

Flammable or combustible liquids may not be stored in areas used for exits, stairways, or normally used for the safe passage of people.

Inside a facility, no more than 25 gallons of flammable or combustible liquids may be stored in a room outside of an approved storage cabinet.

### **Gasoline: General Information**

Because most persons use or indirectly handle gasoline on a regular basis – from filling up automobiles to lawn mowers – the hazards presented by this product may have become obscure. Just because you are familiar with gasoline, never lose sight of the lethal hazards that it may contain.

Gasoline is a flammable liquid which means it has a flash point of less than 100°F. The actual flash point – lowest temperature at which a liquid gives off enough vapor to form a flammable mixture with air – of gasoline is -45°F. The auto-ignition temperature – the temperature at which, with sufficient oxygen, gasoline will ignite on its own and burn – is 536°F.

Gasoline has a specific gravity – the weight of the gasoline compared to the weight of an equal volume of water – of 0.73. Further, gasoline has a negligible solubility in water. Basically, what the above means is that if water is used to extinguish a gasoline fire, it will only spread it because the gasoline will float on the water and continue to give off a vapor and form a flammable mixture with air. Gasoline fires must be fought with an extinguisher that is rated for Class B fires such as carbon dioxide, dry chemical, or foam. It should be noted that water spray may be used to cool containers that may be exposed to the heat of the fire to prevent an explosion.

**Conditions to Avoid:** heat, flame, & sources of ignition

**Materials to Avoid:** strong oxidizers

**Health Hazard Information:** routes of entry: inhalation, skin, ingestion

**Signs & Symptoms of Overexposure:** headache, nausea, drowsiness, breathlessness, fatigue, convulsions, loss of consciousness, dermatitis

If there is a spill, notify emergency response personnel, evacuate area, remove ignition sources, and build a dike to contain flow – do not flush to sewer or open water. Pick up with inert absorbent and place in closed container for disposal.

Gasoline is a carcinogen – a cancer causing agent.

**General Rules:** Post “No Smoking” signs around gasoline storage and ensure that it is enforced. Use only approved plastic or metal containers for portable gasoline carriers. They must not contain more than 5 gallons.

Double check with local ordinances for storage requirements.

## Company Vehicles

**Note:** The below applies only to employees who DO NOT operate a commercial motor vehicle (CMV) in interstate or intrastate commerce.

Only authorized employees may operate, in the course of their work, any company-owned motor vehicle.

Prior to authorization, the employee must possess a valid and current license to operate the vehicle. Eric Rogers, our Safety Director, or authorized representative, will ensure that the employee has demonstrated his/her ability to operate the motor vehicle in a safe and competent manner.

Under no circumstances may any motor vehicle be operated under the influence of alcohol, illegal drugs, or prescription or over-the-counter drugs medications that may impair their driving skills.

When driving over the road vehicles, employees will ensure that the vehicle registration and proof of insurance is within the vehicle. In the event of an accident, Eric Rogers will be notified **immediately** after all potential injuries are addressed and a police report is filled out. Employees must report all traffic violations to Eric Rogers and they (employees) are responsible for paying all penalties imposed by law.

Loads in vans and trucks will be properly secured (strapped or blocked) to prevent any shift or movement and care will be taken to not exceed the vehicles weight limits.

All company motor vehicles will be maintained in safe operating condition and in accordance with the manufacturer's recommended maintenance schedule.

Before use, a walk around inspection will be performed by the operator checking tires (tread depth and pressure), glass (chips and cracks), horn and lights, and general vehicle condition. **No vehicle will be operated that is not in safe mechanical condition.**

It is expected that the below safe vehicle operation/driving procedures will be followed at all times:

- a. Seat belts will be worn by all occupants at all times while the vehicle is in motion
- b. Safe distance (one vehicle length per 10 MPH) will be maintained
- c. Posted speed limits will not be exceeded
- d. During fuel stops, all fluids will be checked, and the windows, headlights and taillights will be cleaned
- e. Constant attention will be maintained by always being aware of road conditions and surrounding vehicles

**Note:** Unnecessary distractions will not be permitted such as using hands to dial or receive cell phone calls or changing radio stations while the vehicle is in motion.

- f. Before backing up any vehicle, check behind and blow horn for the safety of others.

## **Compressed Air**

### **29 CFR 1910.101 - Compressed gases (general requirements)**

### **29 CFR 1910.242 - Hand and Portable Powered Tools and Other Hand-Held Equipment**

### **29 CFR 1910.169 - Air Receivers**

Prior to using compressed air, employees will receive training in:

- a. Safe use of compressed air.
- b. Pneumatic power tools.
- c. Inspection of compressed gas cylinders

### **Safe Use of Compressed Air:**

The below applies to compressed air receivers, and other equipment used in providing and utilizing compressed air for performing operations such as cleaning, drilling, hoisting, and chipping.

- a. Air receivers will be so installed that all drains, handholes, and manholes therein are easily accessible. Under no circumstances will an air receiver be buried underground or located in an inaccessible place.
- b. A drain pipe and valve will be installed at the lowest point of every air receiver to provide for the removal of accumulated oil and water. Adequate automatic traps may be installed in addition to drain valves. The drain valve on the air receiver will be opened and the receiver completely drained frequently and at such intervals as to prevent the accumulation of excessive amounts of liquid in the receiver.
- c. Every air receiver will be equipped with an indicating pressure gauge (so located as to be readily visible) and with one or more spring-loaded safety valves. The total relieving capacity of such safety valves will be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.
- d. No valve of any type will be placed between the air receiver and its safety valve or valves.
- e. Safety appliances, such as safety valves, indicating devices and controlling devices, will be constructed, located, and installed so that they cannot be readily rendered inoperative by any means, including the elements.
- f. All safety valves will be tested frequently and at regular intervals to determine whether they are in good operating condition.

## Compressed Gas Cylinders

### 29 CFR 1910-253 - Oxygen-Fuel Gas Welding and Cutting

#### Compressed Gas Cylinders Use

Compressed gas cylinders are used at many workplaces – the most common being oxygen and acetylene for welding.

Failure to follow basic safety procedures could result in serious injuries such as:

- a. Flash burn – due to explosion.
- b. Fragment impalement – due to explosion.
- c. Compression of the foot – due to mishandling of tanks.
- d. Inhalation of hazardous gases – due to leakage.

Basic safety procedures for compressed gas cylinders:

- a. Cylinders must remain upright and chained to a substantial support or cart when in use.
- b. Wear appropriate personal protective equipment for the job – such as steel toed shoes, apron, goggles, gloves, helmet, etc.
- c. Read and understand the SDS for the gas being used and know the location of the SDS in case of an emergency.
- d. Have appropriate fire extinguisher readily available
- e. To release the gas, open the cylinder valve slowly – standing away from the face and back of the gage – and leave the opening tools in place (on the valve stem) for quick shut-off in the event of an emergency.
- f. Ensure cylinder valves, regulators, couplings, and hose are free of oil and grease and ensure all connections are tight.
- g. When using oxygen-fuel systems, use flashback arrestors and reverse-flow check valves to prevent flashback.
- h. Keep cylinders away from open flames and sources of heat.
- i. Cylinders are never allowed in confined spaces.
- j. Do not alter or attempt to repair safety devices or valves.
- k. Remove the regulators when: a) moving cylinders; b) work is completed; and c) cylinders are empty.
- l. Take care to prevent combustible materials from exposure to welding or cutting operations.

#### Inspection of Compressed Gas Cylinders:

We will determine that compressed gas cylinders under the control of TINC are in a safe condition to the extent that this can be determined by visual inspection. Visual & other inspections will be conducted as prescribed in the Hazardous Materials Regulations of the Department of Transportation (49 CFR parts 171-179 & 14 CFR part 103).

Where those regulations are not applicable, visual and other inspections will be conducted in accordance with Compressed Gas Association Pamphlets C-6-1968 and C-8-1962, which is incorporated by reference as specified in Sec. 1910.6.

**Note: Compressed gas cylinders, portable tanks, and cargo tanks will have pressure relief devices installed and maintained in accordance with Compressed Gas Association Pamphlets S-1.1-1963 and 1965 addenda and S-1.2-1963, which is incorporated by reference as specified in Sec. 1910.6.**

## **Training**

All employees who use compressed gas cylinders will be trained in their proper storage, handling, and use.

Specific requirements for compressed gas cylinder use include:

- a. Compressed gas cylinders will be clearly marked to identify the gas contained therein. Gas identification must be stamped or stenciled on the gas cylinder or a label affixed. No gas cylinder will be accepted for use that does not legibly identify its content by name.
- b. Visual or other inspections will be performed by the competent person on site to ensure the compressed gas cylinders are in a safe condition.
- c. Compressed gas cylinders will be inspected to ensure they are equipped with the correct regulator. Before use, regulators and cylinder valves will be inspected to ensure they are free from oil, dirt, and solvents.
- d. Compressed gas cylinders will have valve protectors in place when not in use or connected for use.
  1. When a cylinder cap cannot be removed by hand, the cylinder will be tagged "Do Not Use" and returned to the designated storage area for return to the vendor.
- e. The user of the compressed gas cylinders will use only the tools supplied by the provider to open and close cylinder valves.
- f. Valves will be closed before the cylinder is moved, when the cylinder is empty, and at the completion of each job.
- g. Leaking cylinders will be moved to an isolated, well-ventilated area, away from ignitions sources.

**Note: Soapy water will be used to detect the exact location of the leak. If the leak is at the junction of the cylinder valve and cylinder, do not attempt to repair it. The supplier will be contacted and asked for proper response instructions.**
- h. Gasses may never be mixed in a cylinder. Only professionals may refill gas cylinders.
- i. Hoses and connections will be inspected regularly for damage. Hoses should be stored in cool areas and protected from damage.

## **Transportation of Compressed Gas Cylinders**

- a. Compressed gas cylinders must be transported in a vertical secured position using a cylinder basket or cart.
- b. Regulators should be removed, and cylinders capped before movement.
- c. Cylinders may never be rolled. Cylinders should not be dropped or permitted to strike violently.
- d. Protective caps are not to be used to lift cylinders.

## **Compressed Gas Cylinders Storage**

- a. Cylinders must be secured at all times in such a way as to avoid them being knocked over or damaged. They must be stored in a vertical position. They must be segregated based on contents. 20 feet should be maintained between oxidizers and flammables or firewalls erected at least 5 feet high with a fire rating of 30 minutes.
- b. Cylinders must be protected from damage, corrosion, sunlight.
- c. Cylinders must be stored in well protected, well ventilated, dry locations away from sunlight. Cylinders will never be kept in unventilated enclosures such as lockers or cupboards.
- d. Cylinders must be stored away from stairs, elevators, and gangways.
- e. Clearly designated and labeled separate storage area will be provided for full and empty cylinders.
- f. Empty cylinders that are no longer needed must be marked as "MT" and dated when empty. Empty cylinders must be handled as carefully as full cylinders.
- g. Cylinders will be capped when they are not being used.

## **Cranes & Rigging**

### **29 CFR 1910.179 - Overhead and Gantry Cranes**

### **29 CFR 1910.180 - Crawler locomotive and truck cranes**

Cranes, like all pieces of heavy equipment, if not properly operated, inspected and maintained have a potential for causing major bodily injury or property damage. Care must be taken in all facets of crane operation.

Not only do cranes require a thorough annual inspection (a record of the dates and results of these inspections will be maintained by Matt Melander, our safety program administrator), they require inspection prior to each use and even during use by a competent person. Any deficiencies will be repaired or replaced before continued use. All inspections will be made by qualified, competent person(s). An inspection form for daily and monthly inspections is found in our project manual. Monthly inspections must be certified by Matt Melander.

As with all items of machinery, only those trained in safe work practices and deemed qualified will be designated as authorized persons to operate cranes.

### **Overhead and Gantry Cranes:**

An overhead crane is a machine for lifting and lowering a load as well as moving it horizontally on a fixed runway structure. The hoisting mechanism is an integral part of the crane.

The rated load of the crane must be marked plainly on each side of the crane and, if the crane has more than one hoisting unit, each hoist must have its rated load marked on it or its load block. This marking must be clearly legible from the ground or floor.

A minimum of 3 inches overhead and 2 inches laterally must be provided and maintained between the crane and obstructions. Where passageways or walkways are provided, obstructions must not be placed so that safety or personnel will be jeopardized by movements of the crane.

Only designated employees, who have received training in crane operations, will be permitted to operate a crane.

The operator must always have a clear view of the load.

The operator must have training in the use of fire extinguishers.

**Note: Under no circumstances will a carbon tetrachloride extinguisher be used.**

All exposed moving parts which might constitute a hazard during normal operating conditions must be guarded.

Specific requirements for crane installation, set-up, and testing are found in 29 CFR 1910.179 and must be followed. Frequent [daily to monthly intervals] and periodic [1 to 12-month intervals] inspections must be accomplished.

### **Inspections:**

#### **Frequent Inspection - Daily to monthly intervals:**

- a. All functional operating mechanisms for maladjustment interfering with proper operation. Daily.
- b. Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems. Daily.

- c. Hooks with deformation or cracks. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the hook inspected. For hooks with cracks or having more than 15 percent in excess of normal throat opening or more than 10 percent twist from the plane of the unbent hook refer to paragraph (l)(3)(iii)(a) of 29 CFR 1910.179.
- d. Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier of the chain which was inspected.
- e. All functional operating mechanisms for excessive wear of components.
- f. Rope reeving for noncompliance with manufacturer's recommendations.

**Periodic Inspection - 1 to 12-month Intervals:**

- a. Deformed, cracked, or corroded members.
- b. Loose bolts or rivets.
- c. Cracked or worn sheaves and drums.
- d. Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.
- e. Excessive wear on brake system parts, linings, pawls, and ratchets.
- f. Load, wind, and other indicators over their full range, for any significant inaccuracies.
- g. Gasoline, diesel, electric, or other power plants for improper performance or noncompliance with applicable safety requirements.
- h. Excessive wear of chain drive sprockets and excessive chain stretch.
- i. Electrical apparatus, for signs of pitting or any deterioration of controller contactors, limit switches and pushbutton stations.
- j. All ropes must be inspected at least once a month and a certified record of these inspections will be maintained recording the dates of the inspections and the signature of the person who performed the inspection.

Before any repairs are started, a warning or "Out of Order" sign will be placed on the crane. A preventive maintenance program based upon the crane manufacturer's recommendations will be established.

**Crawler Locomotive and Truck Cranes:**

A mobile crane is an indispensable piece of equipment at the workplace. Its ability to lift massive weight to extreme heights allows work to be done that would be impossible without it. If you are not directly involved in crane or hoisting operations, stay clear! Crane safety involves the integrity of the crane itself, the knowledge and skill of the operator, and the actual hoisting procedures including setup, inspection, and operations.

Only designated employees, who have received training in crane operations, will be permitted to operate a crane.

The operator must always have a clear view of the load.

The operator must have training in the use of fire extinguishers and a CO2 or dry chemical fire extinguisher must be in the cab or readily accessible.

Written reports on rated load tests and the test procedures and confirming the adequacy of any repairs or alterations will be maintained.

All running ropes will be inspected at least once a month & a certified record of these inspections will be maintained recording the dates of the inspections & the signature of the person who performed the inspection. All ropes in storage for a month or more will be thoroughly inspected before use & the above inspection records will be maintained.

A rating chart, with clearly legible letters & figures will be affixed securely in each crane cab and be readily visible to the crane operator.

It should be noted that most common crane accident involves crane or boom contact with energized power lines.

However, all the below safety items are important and should be included in any safety audit, a review, or inspection of:

- a. The entire construction area to determine how the crane operation affects other operations and crafts working with or around the crane.
- b. Operator training and qualification.
- c. All crane records including frequent (performed by the operator at the start of each shift) and periodic (at 1 to 12-month intervals) inspections used to determine the need for repair or replacement of components to keep the machine in proper operating condition. Inspection and maintenance records, the operator's manual, and load charts must be readily available.
- d. The actual crane set-up to include proximity of electrical power lines; leveling; clearance for rotation; outriggers, if applicable; & stability (the relationship of the load weight, angle of the boom, & its radius to the center of gravity of the load).
- e. The structural integrity of the crane's main frame, crawler, track and outrigger supports, boom sections, and attachments.
- f. All wire ropes, cables, hydraulic lines, chains, hooks, etc.
  1. All ropes will be thoroughly inspected before crane is used and certified by record of inspection, ID of the rope inspected and signature of the person performing the inspection.

Because working around or near electrical power lines is identified as the leading cause of crane accidents, there must be a minimum clearance of 10' from lines and:

- a. Cranes should not handle materials or loads stored under electric power lines.
- b. Operation of mobile cranes near de-energized electric power lines is not recommended until the following steps have been taken:
  1. The power company or owner of the power line has deenergized the lines.
  2. The lines are visibly grounded and appropriately marked.
  3. Durable warning signs are installed at the operator's station and on the outside of the crane identifying the clearance requirements between the crane/load and electric power lines.
  4. A qualified representative of the power company or owner of the electric power line is at the site to verify that the power lines have been de-energized or properly grounded.

Prior to authorization to operate a crane, operators of cranes with a boom length of 25 feet or more and a maximum rated load capacity of 15,000 pounds or more must:

- a. Have a valid certificate of competency issued by an Accredited Certifying Entity for the type of crane being used.
- b. Pass a physical examination that meets the requirements of either ASME B30.5-2000 or US DOT standard 49 CFR 392.41 through 391.49.
- c. Pass a written examination that covers, at least:
  1. Operational characteristics and controls for the crane type for which qualification is being sought.
  2. Emergency control skills such as a response to fire, power line contact, loss of stability, and control malfunction.
  3. Demonstration of basic arithmetic skills necessary for crane operation and the ability to read and comprehend the crane manufacturer's operation and maintenance instruction manuals, including load capacity information **(load charts)** for the crane for which certification is sought.
  4. Pass a hands-on examination to demonstrate proficiency in operating the specific crane including pre-start and post-start inspection, maneuvering skills, shutdown, and securing procedures.

Operator certificates are valid for five (5) after which recertification is required.

All crawler, truck, or locomotive cranes will meet the applicable requirements for design, inspection, construction, testing, maintenance and operations as prescribed in ANSI B30.5-1968. A crane inspection certification record will be maintained which shows the date, the items inspected, the serial number of the crane and the signature of the inspector. The operator will ensure that a 5BC (or greater) fire extinguisher is readily accessible during operation.

All rated load capacities recommended operating speeds, special hazard warnings or instructions must be readily visible to the operator while operating the crane. At all times, the manufacturer's specifications and limitations will be adhered to. Attachments will not exceed the capacity, rating, or scope recommended by the manufacturer.

Any modifications to crane equipment which might affect safety may only be done with written approval from the manufacturer.

While cranes easily have the lifting ability to hoist employees on a personnel platform, this is absolutely prohibited except in cases when the erection, use, and dismantling of conventional means of reaching the worksite would be more hazardous or is not possible because of structural design or worksite conditions. A conventional means would include: a personnel hoist, ladder, stairway, aerial lift, elevating work platform or scaffold.

It is absolutely imperative that the possibility of electrocution be totally eliminated. This can be accomplished by adhering to the safe distances from various currents noted in Heavy Equipment and Electrical Power Lines, below.

Except where electrical distribution and transmissions lines have been deenergized and visibly grounded at point of work or where insulating barriers (not attached to the vehicle) have been erected to prevent physical contact with the lines, the following clearance -- between any part of the vehicle and the line -- will be observed:

Line Rating	Minimum Clearance
50 kV. or below	10 feet
Over 50 kV.	10 feet plus .04 inch for each 1 kV. over 50 kV, or twice length of the line insulator, but never less than 10 feet.

In transit, equipment clearance must be a minimum of:

Line Rating	Minimum Clearance
50 kV. or below	4 feet
Over 50 kV. to 345 kV.	10 feet
Over 345 kV. to 750 kV.	16 feet

A ground guide will be designated to observe clearance of the equipment and give warning to the equipment operator in situations where it is difficult for the equipment operator to maintain the desired clearances by visual means.

An overhead wire will be considered energized unless the owner of the line or the electrical utility authorities indicate that it is not energized, and it has been visibly grounded.

Dangers associated with cranes include numerous moving parts. These dangers can be minimized or eliminated by ensuring that all guards are in place and not tampered with.

Care must be taken to ensure that areas within the swing radius of the rear of the rotating superstructure of the crane are barricaded to prevent a person from being struck or crushed.

All employees must keep clear of loads that are about to be lifted as well as suspended loads.

When using slings made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope (conventional three strand construction), and synthetic web (nylon, polyester, and polypropylene), the following safe operating practices will be observed:

- Slings will not be shortened with knots or bolts or other makeshift devices.
- Sling legs will not be kinked.
- Slings used in a basket hitch will have the loads balanced to prevent slippage.
- Slings will be padded or protected from the sharp edges of their loads.
- Hands or fingers will not be placed between the sling and its load while the sling is being tightened around the load.

All slings and associated equipment/attachments will be inspected before use by a competent person and defective items will be tagged out of service.

Hand signals used to guide the crane operator will be consistent with the ANSI standard for the type of crane in use and an illustration of the signals must be posted at the workplace. A copy of these hand signals is in our Project Manual.

Care must be taken while actually operating the crane in hoisting applications as well as when relocating the crane superstructure.

The competent person on site will ensure that the flooring or ground on which equipment is to be placed is substantial enough to safely hold the weight of the load and equipment with adequate safety margin. If the strength of the floor is unknown and/or cannot be determined, a professional engineer will determine the pounds per square foot required and, if necessary, the appropriate shoring to be installed to sustain the weight.

When operating in enclosed spaces, atmospheric testing will be accomplished to ensure clean breathable air. These tests will be recorded and maintained by Matt Melander, our safety program administrator.

## Delivery Crane Trucks

**Note:** The below information is applicable to the following crane types and operations:

1. Articulating/knuckle-boom truck cranes that deliver material to a construction site when used to transfer materials from the truck crane to the ground, without arranging the materials in a particular sequence for hoisting.
2. Articulating/knuckle-boom truck cranes that deliver material to a construction site when the crane is used to transfer building supply sheet goods or building supply packaged materials from the truck crane onto a structure, using a fork/cradle at the end of the boom, but only when the truck crane is equipped with a properly functioning automatic overload prevention device. Such sheet goods or packaged materials include but are not limited to: sheets of sheet rock, sheets of plywood, bags of cement, sheets or packages of roofing shingles, and rolls of roofing felt.

**Note:** The above articulating/knuckle-boom crane exclusion does not apply when it is used to 1) hold, support or stabilize the material to facilitate a construction activity, such as holding material in place while it is attached to the structure; 2) when the material being handled is a prefabricated component such as precast concrete members or panels, roof trusses, prefabricated building sections such as, but not limited to: floor panels, wall panels, roof panels, roof structures, or similar items; and, 3) when the material being handled by the crane is a structural steel member (for example, steel joists, beams, columns, steel decking (bundled or unbundled) or a component of a systems-engineered metal building.

All other crane operations fall under Subpart CC—Cranes and Derricks in Construction, located here 29 CFR 1926.1400

Cranes, like all pieces of heavy equipment, if not properly operated, inspected and maintained, have a potential for causing major bodily injury or property damage. Care must be taken in all facets of crane operation.

Not only do cranes require a thorough annual inspection (a record of the dates and results of these inspections must be maintained) they require inspection prior to each use and even during use by a competent person.

All rated load capacities, recommended operating speeds, and special hazard warnings or instructions must be readily visible to the operator of the crane.

While cranes easily have the lifting ability to hoist employees on a personnel platform, this is **absolutely prohibited** except in cases when the erection, use, and dismantling of conventional means of reaching the worksite would be more hazardous or is not possible because of structural design or worksite conditions. A conventional means would include: a personnel hoist, ladder, stairway, aerial lift, and elevating work platform or scaffold.

It is absolutely imperative that the possibility of electrocution be totally eliminated. This can be accomplished by adhering to the safe distances from various currents noted in The Control of Hazardous Energy (Lockout/Tagout), located at **29 CFR 1910.147**.

Dangers associated with cranes include numerous moving parts. These dangers can be minimized or eliminated by ensuring that all guards are in place and not tampered with.

Care must be taken to ensure that areas within the swing radius, of the rear of the rotating superstructure of the crane, are barricaded to prevent a person from being struck or crushed.

All employees must keep clear of loads that are about to be lifted as well as suspended loads.

When using slings made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope (conventional three strand construction), and synthetic web (nylon, polyester, and polypropylene), the following safe operating practices will be observed:

- a. Slings will not be shortened with knots or bolts or other makeshift devices.
- b. Sling legs will not be kinked.
- c. Slings used in a basket hitch will have the loads balanced to prevent slippage.
- d. Slings will be padded or protected from the sharp edges of their loads.
- e. Hands or fingers will not be placed between the sling and its load while the sling is being tightened around the load.

Hand signals used to guide the crane operator will be consistent with the ANSI standard for the type of crane in use and an illustration of the signals must be posted at the workplace.

Care must be taken while actually operating the crane in hoisting applications as well as when relocating the crane superstructure.

The competent person on site will ensure that the flooring on which equipment may be placed is substantial enough to safely hold the weight of the load. If the strength of the floor is unknown and/or cannot be determined, a professional engineer will determine the pounds per square foot required and, if necessary, the appropriate shoring to be installed to sustain the weight.

## Disposable Respirators

OSHA requires that employees who voluntarily use disposable respirators in situations where respiratory protection is not specifically required by OSHA standard (in atmospheres where exposures are below the permissible exposure limit) essentially for personal comfort or additional, though not required, respiratory protection be informed of 29 CFR 1910.134 Appendix D, printed below.

**Standard Number: 1910.134 App D**

**Standard Title: (Mandatory) Information for Employees Using Respirators When Not Required Under Standard.**

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard. You should do the following: 1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations. 2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you. 3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke. 4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

All disposable respirators, such as Moldex, 3M, Wilson, North Safety, etc. must be marked with the manufacturer's name, the part number, the protection provided by the filter, and "NIOSH".

Disposable filters are actually negative pressure respirators. They protect the user by filtering particles out of the air breathed.

Though disposable filters cannot be fit-tested in the traditional sense, they must be fit-tested in accordance with the manufacturer's instructions.

## Dockboards

The employer must ensure that each dockboard used meets the requirements of this section. The employer must ensure:

- a. Dockboards are capable of supporting the maximum intended load in accordance with §1910.22(b);

Dockboards that are put into initial service on or after January 17, 2017 must be designed, constructed, and maintained to prevent transfer vehicles from running off the dockboard edge.

**Exception: When the employer demonstrates there is no hazard of transfer vehicles running off the dockboard edge, the employer may use dockboards that do not have run-off protection.**

- b. Portable dockboards are secured by anchoring them in place or using equipment or devices that prevent the dockboard from moving out of a safe position. When the employer demonstrates that securing the dockboard is not feasible, the employer must ensure there is sufficient contact between the dockboard and the surface to prevent the dockboard from moving out of a safe position;
- c. Measures, such as wheel chocks or sand shoes, are used to prevent the transport vehicle (e.g. a truck, semi-trailer, trailer, or rail car) on which a dockboard is placed, from moving while employees are on the dockboard.
- d. Portable dockboards are equipped with handholds or other means to permit safe handling of dockboards.

## Electrical Work - Workplace Safety

[29 CFR 1910.305 - Wiring methods, components, and equipment for general use](#)

[29 CFR 1910.332 - Training](#)

[29 CFR 1910.333 - Selection and use of work practices](#)

[29 CFR 1910.334 - Use of equipment](#)

No electrical work will be performed on electric distribution circuits or equipment, except by a qualified person or by a person trained to perform electrical work and to maintain electrical equipment under the direct supervision of a qualified person. Disconnecting devices will be locked out and suitably tagged by the persons who perform such work, except that in cases where locking out is not possible, such devices will be opened and suitably tagged by such persons. Locks or tags will be removed only by the persons who installed them or, if such persons are unavailable, by persons authorized by the operator or his agent.

Only qualified or trained personnel may perform electrical work.

All electrical work will be done according to the latest adopted National Electrical Code as well as established local codes.

Only qualified persons may work on electric circuit parts or equipment that has not been de-energized. These persons must be made familiar with the use of special precautionary techniques, PPE, insulating & shielding materials and insulated tools.

**Note:** When dealing with safety related work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, a Qualified Person is defined as one who: "is permitted to work on or near exposed energized parts" and who, at a minimum, has been trained in and is familiar with:

- a. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment, and
- b. The skills and techniques necessary to determine the nominal voltage of exposed live parts, and
- c. The clearance distances specified in 29 CFR 1910.333(c) and the corresponding voltages to which the qualified person will be exposed

Approach Distances for Qualified Employees Alternating Current	
Voltage Range (phase to phase)	Minimum Approach Distance
300V and Less	Avoid Contact
Over 300V, not over 750V	1 ft. 0 in. (30.5 cm).
Over 750V, not over 2kV	1 ft. 6 in. (46 cm).
Over 2kV, not over 15kV	2 ft. 0 in. (61 cm).
Over 15kV, not over 37kV	3 ft. 0 in. (91 cm).
Over 37kV, not over 87.5kV	3 ft. 6 in. (107 cm).
Over 87.5kV, not over 121kV	4 ft. 0 in. (122 cm).
Over 121kV, not over 140kV	4 ft. 6 in. (137 cm).

**Note:** When an unqualified person is working overhead lines, the location will be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

For voltages to ground 50kV or below	10 feet
For voltages to ground over 50kV	10 feet plus 4 inches for every 10kV over 50kV.

**Note:** When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given above.

### **Electrical Safety Measures:**

- a. Daily, prior to use, all electrical equipment – including extension cords – will be inspected and defective items will be tagged out of service and not used.
- b. With the exception of double insulated tools (with UL approval), all electrical tools and equipment will be grounded.
- c. Tools will not be hoisted by their flexible electrical cords.
- d. Except in an emergency, load rated switches and circuit breakers will be used for the opening and closing of circuits under load conditions as opposed to fuses and splice connections.
- e. While working on electrical equipment, unauthorized persons will be kept clear by barriers or other means of guarding.
- f. Temporary wiring and extension cords will be kept off of walking working surfaces & vehicle traffic areas or covered to prevent tripping & vehicle damage.
  1. Electrical cords will not be suspended with staples, hung from nails, or suspended by wire.
  2. Worn or frayed electric cords or cables will not be used.
- g. Hands will be dry when working on electrical equipment including plugging in extension cords.
- h. When working around any electrical power circuit, employees will:
  1. Protect themselves by de-energizing the circuit and grounding it or by establishing insulation between themselves and the current.
  2. Ensure that any conductive materials and equipment that are in contact with any part of their body will be handled in a manner that will preclude contact with exposed energized conductors or circuit parts.
  3. Use portable ladders that have non-conductive siderails.
  4. Remove or insulate conductive articles of jewelry and clothing that might contact exposed energized parts.
- i. Only qualified persons may perform testing work on electric circuits or equipment.
- j. Sufficient access and working space must be maintained about all electric equipment to permit ready and safe operation and maintenance. This space must be kept clear, i.e., it cannot be used for storage.
- k. Portable ladders must have non-conductive side rails.
- l. Conductive items of jewelry or clothing must not be worn around electricity unless rendered non-conductive by covering, wrapping, or other insulating means.

## **Ground Fault Circuit Interrupters**

A ground fault circuit interrupter (GFCI) provides protection for all 120-volt, 15-, 20-, and 30-ampere receptacle outlets that are not a part of the permanent wiring by detecting lost current resulting from a short, overheating, and/or ground fault. It should be noted that an extension cord into which electrical devices are plugged are not part of the permanent wiring; therefore, GFCI's are required.

A GFCI will "trip" when the amount of current amperes going to an electrical device in the hot conductor and the amount of current returning from an electrical device differs by approximately 5 milliamps. The GFCI can interrupt the current within as little as 1/40th of a second.

The current that is missing is being lost through a ground fault, whether it is in the actual grounding, a short in the equipment, or electricity going through the employee to the ground.

A GFCI will not protect an employee who comes in contact with two hot wires or a hot wire and a neutral wire. A GFCI will provide protection against fires, overheating, damage to insulation, and, the most common form of electrical shock hazard -- the ground fault. GFCI's must be tested before use.

## **Extension Cords**

Extension cords (temporary wiring), temporary electrical power, and lighting installations of 600 volts, nominal, or less may be used only as follows:

- a. during and for remodeling, maintenance, or repair of buildings, structures, or equipment, and similar activities.
- b. for a period not to exceed 90 days for Christmas decorative lighting and similar purposes.
- c. during emergencies.

Temporary wiring will be removed immediately upon completion of the project or purpose for which the wiring was installed.

Extension cords will not replace permanent wiring and the following safety precautions will be adhered to:

- a. Extension cords will be kept off of walking working surfaces or be covered to prevent tripping. Cords will not be placed in vehicle traffic lanes.
- b. Electrical cords will not be suspended with staples, hung from nails, or suspended by wire.
- c. Worn or frayed electric cords or cables will not be used.

Prior to using an extension cord, an employee must:

- a. Inspect the cord for cracks and cuts and a defective cord will be tagged and removed from service.
- b. Ensure the cord has a three prong plug for grounding.
- c. Use the shortest continuous length of cord possible. Cords may not be spliced together.
- d. Make certain the cord does not lay in water.
- e. Ensure cord is properly rated for the job.

## **Fixed Industrial Stairs**

Fixed industrial stairs includes interior and exterior stairs around machinery, tanks, and other equipment, and stairs leading to or from floors, platforms, or pits. It does not apply to stairs used for fire exit purposes, to construction operations to private residences, or to articulated stairs, such as may be installed on floating roof tanks or on dock facilities, the angle of which changes with the rise and fall of the base support.

Fixed stairs will be provided for access from one structure level to another where operations necessitate regular travel between levels, and for access to operating platforms at any equipment which requires attention routinely during operations.

Fixed stairs will also be provided where access to elevations is daily or at each shift for such purposes as gauging, inspection, regular maintenance, etc., where such work may expose employees to acids, caustics, gases, or other harmful substances, or for which purposes the carrying of tools or equipment by hand is normally required.

Spiral stairways will not be permitted except for special limited usage and secondary access situations where it is not practical to provide a conventional stairway. Winding stairways may be installed on tanks and similar round structures where the diameter of the structure is not less than five (5) feet.

## **Guarding Floor and Wall Openings and Holes**

### **Protection for floor openings:**

Every stairway floor opening will be guarded by a standard railing. The railing will be provided on all exposed sides (except at entrance to stairway). For infrequently used stairways where traffic across the opening prevents the use of fixed standard railing (as when located in aisle spaces, etc.), the guard will consist of a hinged floor opening cover of standard strength and construction and removable standard railings on all exposed sides (except at entrance to stairway).

Every ladder way floor opening, or platform will be guarded by a standard railing with standard toeboard on all exposed sides (except at entrance to opening), with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.

Every hatchway and chute floor opening will be guarded by one of the following:

- a. Hinged floor opening cover of standard strength and construction equipped with standard railings or permanently attached thereto so as to leave only one exposed side. When the opening is not in use, the cover will be closed or the exposed side will be guarded at both top and intermediate positions by removable standard railings.
- b. A removable railing with toeboard on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides. The removable railings will be kept in place when the opening is not in use.

Where operating conditions necessitate the feeding of material into any hatchway or chute opening, protection will be provided to prevent a person from falling through the opening.

Every pit and trapdoor floor opening, infrequently used, will be guarded by a floor opening cover of standard strength and construction. While the cover is not in place, the pit or trap opening will be constantly attended by someone or will be protected on all exposed sides by removable standard railings.

Every manhole floor opening will be guarded by a standard manhole cover which need not be hinged in place. While the cover is not in place, the manhole opening will be constantly attended by someone or will be protected by removable standard railings.

Every temporary floor opening will have standard railings or will be constantly attended by someone.

Every floor hole into which persons can accidentally walk will be guarded by either:

- a. A standard railing with standard toeboard on all exposed sides, or
- b. A floor hole cover of standard strength and construction. While the cover is not in place, the floor hole will be constantly attended by someone or will be protected by a removable standard railing.

Every floor hole into which persons cannot accidentally walk (on account of fixed machinery, equipment, or walls) will be protected by a cover that leaves no openings more than 1 inch wide. The cover will be securely held in place to prevent tools or materials from falling through.

### **Protection for Wall Openings and Holes:**

Every wall opening from which there is a drop of more than 4 feet will be guarded by one of the following:

- a. Rail, roller, picket fence, half door, or equivalent barrier. Where there is exposure below to falling materials, a removable toe board or the equivalent will also be provided. When the opening is not in use for handling materials, the guard will be kept in position regardless of a door on the opening. In addition, a grab handle will be provided on each side of the opening with its center approximately 4 feet above floor level and of standard strength and mounting.
- b. Extension platform onto which materials can be hoisted for handling, and which will have side rails or equivalent guards of standard specifications.

Every temporary wall opening will have adequate guards but these need not be of standard construction.

Where there is a hazard of materials falling through a wall hole, and the lower edge of the near side of the hole is less than 4 inches above the floor, and the far side of the hole more than 5 feet above the next lower level, the hole will be protected by a standard toeboard, or an enclosing screen either of solid construction.

### **Protection of Open-Sided Floors, Platforms, and Runways:**

Every open-sided floor or platform 4 feet or more above adjacent floor or ground level will be guarded by a standard railing on all open sides except where there is entrance to a ramp, stairway, or fixed ladder. The railing will be provided with a toeboard wherever, beneath the open sides,

- a. Persons can pass,
- b. There is moving machinery, or
- c. There is equipment with which falling materials could create a hazard.

Every runway will be guarded by a standard railing on all open sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard will also be provided on each exposed side.

Runways used exclusively for special purposes (such as oiling, shafting, or filling tank cars) may have the railing on one side omitted where operating conditions necessitate such omission, providing the falling hazard is minimized by using a runway of not less than 18 inches wide. Where persons entering upon runways become thereby exposed to machinery, electrical equipment, or other danger not a falling hazard, additional guarding that is specified may be essential for protection.

Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards will be guarded with a standard railing and toe board.

If an employee's work requires him or her to work at a height of 4 feet or more above a lower level and standard guardrails are not available, fall protection will be provided by a safety harness and lanyard. Particular attention will be paid to the anchorage point to ensure that it is capable of the stresses that may be placed upon it.

While on a host employer's property, protection for fixed stairways, ladder openings, hatchway openings, manholes, skylights, ramps, and platforms will not be compromised. Requests to make any changes will not take place without direct permission from the host employer.

## **Hand Trucks**

Hand trucks will be loaded with the heaviest items on the bottom. Before actually moving a hand truck, ensure the load is steady and unable to shift. If necessary, the load will be strapped to the hand truck to prevent shifting.

Hand trucks should be loaded so that the weight of the load will be over the axles to the extent possible when in motion.

Hand trucks should be selected by taking into consideration the size of the load, the weight of the load, and the surface on which it is being used. Hard wheels roll well on hard surfaces and soft wheels roll better on soft surfaces. Do not exceed a hand truck's capacity. If the hand truck has pneumatic tires, ensure they are inflated to their proper pressure.

When using a ramp, the hand truck should be in front of you when going down and behind you when going up.

Ensure clear vision – do not stack above your line of sight. If circumstances require that a large item does hinder line of sight or the item is possibly unstable in spite of using straps, a second truck operator will be used.

Hand trucks should be stored with the tongues under a pallet or table when not in use.

## **Hazardous Workplace Chemical Exposure**

Our employees may encounter various hazardous chemicals while performing their work duties. If employees have been properly trained on a particular hazard, they may continue work as required. If employees have not been trained on the hazard they encounter, they are to stop work immediately and notify their supervisor.

Per Hazard Communication, located at **29 CFR 1910.1200**, TINC will keep on site, and readily available SDS for each chemical to which we may be exposed. This information will be provided by the facility operator.

### **Asbestos Awareness**

#### **NIOSH Pocket Guide to Chemical Hazards - Asbestos**

At some facilities, employees may have potential exposure to asbestos if precautionary steps noted below are not taken. Asbestos can be found in older tile flooring, pipe and mechanical insulation, plaster, fireproofing, soundproofing, roofing materials, and in sprayed-on materials located on beams, in crawl spaces, and between walls. Undisturbed, it is perfectly safe.

Asbestos is not a specific mineral, but rather a fibrous form of various minerals. It is a remarkable product because it is resistant to corrosive chemicals, it is a nonconductor of electricity, it has a high tensile strength (equal to that of steel wire) and is resistant to heat (it will not burn but will disintegrate at extremely high temperatures). Some forms of asbestos, such as chrysotile, can be spun into thread. In fact, one pound of chrysotile can produce 30,000 feet of thread -- it is that fine. Other types of asbestos have fibers which cannot be spun but are excellent for their frictional properties (brakes) and their insulation and sound deadening properties. The actual minerals found in asbestos include iron, magnesium, silica, and water. Asbestos is a truly remarkable product which has been serving mankind since the ancient Greeks and Romans.

Unfortunately, asbestos has a down side that has been discovered and statistically documented in recent years – it is hazardous to your health.

There are two types of asbestos, friable and non-friable.

Friable asbestos can be crumbled with hand pressure and is likely to emit minute fibers can cause serious long-term health effects. Fluffy sprayed-on materials used for fireproofing, insulation, or sound proofing are considered to be friable.

Non-friable asbestos, undisturbed, poses no health risk. Vinyl-asbestos floor tile or roofing felt are considered non-friable if intact and generally do not emit airborne fibers unless subjected to sanding, sawing and other aggressive operations.

Asbestos-cement pipe or sheet can emit airborne fibers if the materials are cut or sawed, or if they are broken.

The health hazards associated with asbestos are caused by the microscopic fibers which, when released, enter the deepest portion of the lung (past your natural defenses such as hairs, mucus, cilia, and macrophages). Scar tissues can develop, and the lung stiffens thus reducing gas exchange. This is called asbestosis. Another disease associated with asbestos is lung cancer. High exposure levels of asbestos increase one's chance of lung cancer by a factor of five. Mesothelioma, a disease caused primarily by exposure to amosite and crocidolite, can be fatal. Lastly, though not likely, it is possible to get cancer of the stomach and colon.

The health hazards associated with asbestos are chronic and, as such, present themselves after a long period of time.

Asbestos Awareness Training is required for all employees who work in areas that contain or may contain asbestos. This training will be documented.

Steps to avoid asbestos exposure:

- a. Under no circumstances will asbestos containing material (ACM) or presumed asbestos containing material (PACM) be disturbed during work activities.
- b. If you believe the materials you will be working with contain asbestos, do not disturb the material and contact your supervisor.
- c. Obey all asbestos warning signs & labels. ACM and PACM will not be disturbed.
- d. All exposure to thermal system insulation, sprayed-on, and troweled-on surfacing material will be assumed to be asbestos exposure unless results of laboratory analysis show that the material does not contain asbestos.

For the record, permissible exposure to airborne asbestos fibers may not exceed 0.1 fibers per cubic centimeter of air (0.1 f/cc) averaged over the 8-hour workday, and 1 fiber per cubic centimeter of air (1.0 f/cc) averaged over a 30-minute work period.

### **Crystalline Silica Awareness**

#### **Silica, Crystalline (Respirable Size), National Institute of Health**

Crystalline Silica can be readily found at many workplaces in rocks, as well as many concrete and masonry products. Crystalline Silica can be released in the air when employees are performing such tasks as:

- a. Chipping, hammering, drilling, crushing, or hauling rock.
- b. Abrasive blasting.
- c. Sawing, hammering, drilling, or sweeping concrete or masonry.

Unprotected respiratory exposure to crystalline silica may cause a lung disease called silicosis as well as cancer and death.

Occupational silica exposure is completely preventable through employee training, use of a silica substitute, use of engineering controls, improved work practices, and, lastly, use of personal protective equipment.

Employees who are potentially exposed to an environment containing airborne concentrations of silica will receive training prior to working with silica and receive periodic refresher training after work has started.

#### **Employee Information and Training**

We will ensure that at least the following hazards are addressed: Cancer, lung effects, immune system effects, and kidney effects.

Additionally, we must ensure that our employees can demonstrate knowledge and understanding of at least the following:

- a. The health hazards associated with exposure to respirable crystalline silica;  
Silicosis is caused by exposure to respirable crystalline silica dust. Crystalline silica is a basic component of soil, sand, granite, & most other types of rock, & it is used as an abrasive blasting agent. Silicosis is a progressive, disabling, & often fatal lung disease. Cigarette smoking adds to the lung damage caused by silica.  
Silicosis (especially the acute form) is characterized by shortness of breath, fever, and cyanosis (bluish skin); it may often be misdiagnosed as pulmonary edema (fluid in the lungs), pneumonia, or tuberculosis. Severe mycobacterial or fungal infections often complicate silicosis and may be fatal in many cases.

### Three types of Silicosis:

Chronic Silicosis:	Usually occurs after 10 or more years of exposure to crystalline silica at relatively low concentrations
Accelerated Silicosis:	Results from exposure to high concentrations of crystalline silica and develops 5 to 10 years after the initial exposure.
Acute Silicosis:	Occurs where exposure concentrations are the highest and develops after a few months or as long as 2 years following exposures to extremely high concentrations of respirable crystalline silica.

- b. Specific tasks in the workplace from Table 1 that could result in exposure to respirable crystalline silica;
- c. Specific measures we have implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used;

Engineering controls would include local exhaust ventilation, blasting cabinets, and establishing a clearly identified exposure area.

Work practice controls would include use of water sprays, wet methods for cutting, chipping, drilling, sawing, grinding, etc.

Eating, drinking, or smoking near crystalline silica dust is prohibited.

Employees will wash hands and face before eating, drinking or smoking away from silica exposure area.

Personal protective equipment would include appropriate half-face or full-face respirator.

- d. The contents of 29 CFR 1910.1053;
- e. The purpose and a description of the medical surveillance program required by paragraph (i) of 29 CFR 1910.1053.

We will make a copy of 29 CFR 1910.1053 readily available and without cost to our employees covered by this program.

### NIOSH Safety Recommendations:

NIOSH recommends the following measures to reduce crystalline silica exposures at the workplace and prevent silicosis and silicosis-related deaths:

- a. Prohibit silica sand (or other substances containing more than 1% crystalline silica) as an abrasive blasting material and substitute less hazardous materials.
- b. Conduct air monitoring to measure worker exposures.
- c. Use containment methods such as blast-cleaning machines and cabinets to control the hazard and protect adjacent workers from exposure.
- d. Practice good personal hygiene to avoid unnecessary exposure to silica dust.
  - 1. Wash hands and face before eating.
  - 2. No eating, drinking or tobacco products in the blasting area.
  - 3. Shower before leaving work site.
  - 4. Vehicles parked away from contaminated area.

- e. Wear washable or disposable protective clothes at the workplace; shower and change into clean clothes before leaving the workplace to prevent contamination of cars, homes, and other work areas.
- f. Use respiratory protection when source controls cannot keep silica exposures below the NIOSH REL.
- g. Provide periodic medical examinations for all workers who may be exposed to crystalline silica.
- h. Post signs to warn workers about the hazard and to inform them about required protective equipment.
- i. Provide workers with training that includes information about health effects, work practices, and protective equipment for crystalline silica.
- j. Report all cases of silicosis to the state health department.

### **Lead Hazard Awareness:**

Pure lead (Pb) is a heavy metal at room temperature and pressure and is a basic chemical element. It can combine with various other substances to form numerous lead compounds.

OSHA standard **29 CFR 1910.1025 - Lead**, addresses occupational exposure to lead in the construction industry. The word "lead" within this standard refers to elemental lead, all inorganic lead compounds, and a class of organic lead compounds called lead soaps. This standard does not apply to other organic lead compounds.

There may be times when employees are working within the vicinity of lead or lead-containing materials.

Under no circumstances will employees be exposed to lead above the action level which, for lead, is 30 micrograms of lead per cubic meter of air ( $30 \mu\text{g}/\text{m}^3$ ), averaged over an 8-hour workday. As a matter of interest, the permissible exposure limit (PEL) for lead is 50 micrograms of lead per cubic meter of air ( $50 \mu\text{g}/\text{m}^3$ ), averaged over an 8-hour workday.

Lead found in paints, coatings, and compounds that are undisturbed, pose no risk of hazard exposure and work around these items do not require respirators, special clothing, or negative pressure enclosures.

Care will be taken by all employees to not abrade, remove, touch, or in any way disturb lead or lead containing compounds within the work area.

To drive home the point of the importance of leaving lead at the workplace undisturbed and avoided, employees must be aware of the health hazards associated with lead exposure.

The below is extracted from 29 CFR 1910.1025 App A, **Substance data sheet for occupational exposure to lead**:

#### **II. HEALTH HAZARD DATA**

A. "Ways in which lead enters your body". When absorbed into your body in certain doses, lead is a toxic substance. The object of the lead standard is to prevent absorption of harmful quantities of lead. The standard is intended to protect you not only from the immediate toxic effects of lead, but also from the serious toxic effects that may not become apparent until years of exposure have passed. Lead can be absorbed into your body by inhalation (breathing) and ingestion (eating). Lead (except for certain organic lead compounds not covered by the standard, such as tetraethyl lead) is not absorbed through your skin.

When lead is scattered in the air as a dust, fume, or mist it can be inhaled and absorbed through your lungs and upper respiratory tract. Inhalation of airborne lead is generally the most important source of occupational lead absorption. You can also absorb lead through your digestive system if lead gets into your mouth and is swallowed. If you handle food, cigarettes, chewing tobacco, or make-up which have lead on them or handle them with hands contaminated with lead, this will contribute to ingestion. A significant portion of the lead that you inhale or ingest gets into your blood stream. Once in your blood stream, lead is circulated throughout your body and stored in various organs and body tissues. Some of this lead is quickly filtered out of your body and excreted, but some remains in the blood and other tissues. As exposure to lead continues, the amount stored in your body will increase if you are absorbing more lead than your body is excreting. Even though you may not be aware of any immediate symptoms of disease, this lead stored in your tissues can be slowly causing irreversible damage, first to individual cells, then to your organs and whole-body systems.

B. "Effects of overexposure to lead" - (1) "Short term (acute) overexposure". Lead is a potent, systemic poison that serves no known useful function once absorbed by your body. Taken in large enough doses, lead can kill you in a matter of days. A condition affecting the brain called acute encephalopathy may arise which develops quickly to seizures, coma, and death from cardiorespiratory arrest. A short-term dose of lead can lead to acute encephalopathy. Short term occupational exposures of this magnitude are highly unusual, but not impossible. Similar forms of encephalopathy may, however, arise from extended, chronic exposure to lower doses of lead. There is no sharp dividing line between rapidly developing acute effects of lead, and chronic effects which take longer to acquire. Lead adversely affects numerous body systems and causes forms of health impairment and disease which arise after periods of exposure as short as days or as long as several years.

(2) "Long-term (chronic) overexposure". Chronic overexposure to lead may result in severe damage to your blood - forming, nervous, urinary and reproductive systems. Some common symptoms of chronic overexposure include loss of appetite, metallic taste in the mouth, anxiety, constipation, nausea, pallor, excessive tiredness, weakness, insomnia, headache, nervous irritability, muscle and joint pain or soreness, fine tremors, numbness, dizziness, hyperactivity and colic. In lead colic there may be severe abdominal pain. Damage to the central nervous system in general and the brain (encephalopathy) in particular is one of the most severe forms of lead poisoning. The most severe, often fatal, form of encephalopathy may be preceded by vomiting, a feeling of dullness progressing to drowsiness and stupor, poor memory, restlessness, irritability, tremor, and convulsions. It may arise suddenly with the onset of seizures, followed by coma, and death. There is a tendency for muscular weakness to develop at the same time. This weakness may progress to paralysis often observed as a characteristic "wrist drop" or "foot drop" and is a manifestation of a disease to the nervous system called peripheral neuropathy. Chronic overexposure to lead also results in kidney disease with few, if any, symptoms appearing until extensive and most likely permanent kidney damage has occurred. Routine laboratory tests reveal the presence of this kidney disease only after about two-thirds of kidney function is lost. When overt symptoms of urinary dysfunction arise, it is often too late to correct or prevent worsening conditions, and progression to kidney dialysis or death is possible. Chronic overexposure to lead impairs the reproductive systems of both men and women. Overexposure to lead may result in decreased sex drive, impotence and sterility in men. Lead can alter the structure of sperm cells raising the risk of birth defects. There is evidence of miscarriage and stillbirth in women whose husbands were exposed to lead or who were exposed to lead themselves. Lead exposure also may result in decreased fertility, and abnormal menstrual cycles in women.

The course of pregnancy may be adversely affected by exposure to lead since lead crosses the placental barrier and poses risks to developing fetuses. Children born of parents either one of whom were exposed to excess lead levels are more likely to have birth defects, mental retardation, behavioral disorders or die during the first year of childhood. Overexposure to lead also disrupts the blood - forming system resulting in decreased hemoglobin (the substance in the blood that carries oxygen to the cells) and ultimately anemia. Anemia is characterized by weakness, pallor and fatigability as a result of decreased oxygen carrying capacity in the blood.

(3) "Health protection goals of the standard". Prevention of adverse health effects for most workers from exposure to lead throughout a working lifetime requires that a worker's blood lead level (BLL, also expressed as PbB) be maintained at or below forty micrograms per deciliter of whole blood (40 ug/dl). The blood lead levels of workers (both male and female workers) who intend to have children should be maintained below 30 ug/dl to minimize adverse reproductive health effects to the parents and to the developing fetus. The measurement of your blood lead level (BLL) is the most useful indicator of the amount of lead being absorbed by your body. Blood lead levels are most often reported in units of milligrams (mg) or micrograms (ug) of lead (1 mg=1000 ug) per 100 grams (100g), 100 milliliters (100 ml) or deciliter (dl) of blood. These three units are essentially the same. Sometime BLLs are expressed in the form of mg percent or ug percent. This is a shorthand notation for 100g, 100 ml, or dl. (References to BLL measurements in this standard are expressed in the form of ug/dl.)

BLL measurements show the amount of lead circulating in your blood stream, but do not give any information about the amount of lead stored in your various tissues. BLL measurements merely show current absorption of lead, not the effect that lead is having on your body or the effects that past lead exposure may have already caused. Past research into lead - related diseases, however, has focused heavily on associations between BLLs and various diseases. As a result, your BLL is an important indicator of the likelihood that you will gradually acquire a lead - related health impairment or disease.

Once your blood lead level climbs above 40 ug/dl, your risk of disease increases. There is a wide variability of individual response to lead, thus it is difficult to say that a particular BLL in a given person will cause a particular effect. Studies have associated fatal encephalopathy with BLLs as low as 150 ug/dl. Other studies have shown other forms of diseases in some workers with BLLs well below 80 ug/dl. Your BLL is a crucial indicator of the risks to your health, but one other factor is also extremely important. This factor is the length of time you have had elevated BLLs. The longer you have an elevated BLL, the greater the risk that large quantities of lead are being gradually stored in your organs and tissues (body burden). The greater your overall body burden, the greater the chances of substantial permanent damage. The best way to prevent all forms of lead - related impairments and diseases -- both short term and long term -- is to maintain your BLL below 40 ug/dl. The provisions of the standard are designed with this end in mind.

## **Hoists**

A hoist is a useful mechanical device which gives one the ability to lift and move heavy objects – not people. No person is to ride on a hoist. As with all mechanical devices, improper use may lead to injury. You must know what you are doing, and you must be careful.

Before use, hoists must be inspected for bent or damaged components. Particular attention should be paid to guarding. Fingers and loose clothing could be snagged in exposed mechanisms. Chains, cables, or rope slings must not be kinked, twisted, or frayed.

Loads must be properly rigged with hooks or slings, and they must never exceed the hoist's rated capacity.

Ensure that the area around the hoist is free from debris and, most importantly, people. Do not allow yourself or others to be under a hoisted load.

## Ladders

### 29 CFR 1910.23 Ladders

### 29 CFR 1910.24 Step Bolts and Manhole Steps

All employees using ladders are required by OSHA standards to receive training and understand proper procedures for ladder use before using a ladder in a work situation.

**American National Standards Institute** (ANSI) and **NIOSH** approval labels should never be covered with paint or tape. Having ladders that are constructed to standard will prevent collapse and resultant falls.

The following general requirements apply to all ladders:

- a. Ladder rungs, steps, and cleats must be parallel, level, and uniformly spaced when a ladder is in position for use.
- b. Ladder rungs, steps, and cleats must not be spaced less than 10 inches (25 cm) and not more than 14 inches (36 cm) apart, as measured between the centerlines of the rungs, cleats, and steps.

**Exceptions:** Ladder rungs and steps in elevator shafts must be spaced not less than 6 inches (15 cm) apart and not more than 16.5 inches (42 cm) apart, as measured along the ladder side rails; and

Fixed ladder rungs and steps on telecommunication towers must be spaced not more than 18 inches (46 cm) apart, measured between the centerlines of the rungs or steps.

- c. Steps on stepstools must not be spaced less than 8 inches (20 cm) apart and not more than 12 inches (30 cm) apart, as measured between the centerlines of the steps.
- d. Ladder rungs, steps, and cleats must have a minimum clear width of 11.5 inches (29 cm) on portable ladders and 16 inches (41 cm) (measured before installation of ladder safety systems) for fixed ladders.

**Exceptions:** 1. The minimum clear width does not apply to ladders with narrow rungs that are not designed to be stepped on, such as those located on the tapered end of orchard ladders and similar ladders;

2. Rungs and steps of manhole entry ladders that are supported by the manhole opening must have a minimum clear width of 9 inches (23 cm);

3. Rungs and steps on rolling ladders used in telecommunication centers must have a minimum clear width of 8 inches (20 cm); and

4. Stepstools must have a minimum clear width of 10.5 inches (26.7 cm).

- e. Wooden ladders must not be coated with any material that may obscure structural defects.
- f. Metal ladders must be made with corrosion-resistant material or protected against corrosion.
- g. Ladder surfaces must be free of puncture and laceration hazards.
- h. Ladders must only be used for the purposes for which they were designed.
- i. Ladders must be inspected before initial use in each work shift, and more frequently as necessary, to identify any visible defects that could cause employee injury.
- j. Any ladder with structural or other defects must be immediately tagged "Dangerous: Do Not Use" or with similar language in accordance with **§1910.145** and removed from service until repaired in accordance with **§1910.22(d)** or replaced.

- k. Each employee must face the ladder when climbing up or down it.
- l. Each employee must use at least one hand to grasp the ladder when climbing up and down it.
- m. No employee should carry any object or load that could cause the employee to lose balance and fall while climbing up or down the ladder.

The following additional requirements apply to the use of portable ladders:

- a. Rungs and steps of portable metal ladders must be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize the possibility of slipping.
- b. Each stepladder or combination ladder used in a stepladder mode must be equipped with a metal spreader or locking device that securely holds the front and back sections in an open position while the ladder is in use.
- c. Ladders must not be loaded beyond the maximum intended load.  
**Note: The maximum intended load, as defined in §1910.21(b), includes the total load (weight and force) of the employee and all tools, equipment, and materials being carried.**
- d. Ladders are to be used only on stable and level surfaces unless they are secured or stabilized to prevent accidental displacement.
- e. Portable single rail ladders are prohibited.
- f. A ladder must not be moved, shifted, or extended while an employee is on it.
- g. Ladders placed in locations such as passageways, doorways, or driveways where they can be displaced by other activities or traffic must be secured to prevent accidental displacement or guarded by a temporary barricade, such as a row of traffic cones or caution tape, to keep the activities or traffic away from the ladder.
- h. The cap (if equipped) and top step of a stepladder must not be used as steps.
- i. Portable ladders used on slippery surfaces must be secured and stabilized.
- j. The top of a non-self-supporting ladder must be placed so that both side rails are supported, unless the ladder is equipped with a single support attachment.
- k. Portable ladders used to gain access to an upper landing surface must have side rails that extend at least 3 feet (0.9 m) above the upper landing surface (see **Figure D-1**).
- l. Ladders and ladder sections must not be tied or fastened together to provide added length unless they are specifically designed for such use.
- m. Ladders must not be placed on boxes, barrels, or other unstable bases to obtain additional height.

All fixed ladders must meet the requirements of **29 CFR 1910.23(d)**. Mobile ladder stands and mobile ladder stand platforms must meet the requirements of **29 CFR 1910.23(e)**. Step bolts and manhole steps will meet the requirements of **29 CFR 1910.24**.

## **Lighting**

A competent person will ensure that all work areas have adequate lighting. Adequate lighting serves a two-fold purpose – allowing tasks to be more readily performed as well as providing the additional safety factor of being seen by persons not involved with the work – especially vehicular traffic.

If generators are used for auxiliary lighting, they will be operated and maintained by authorized persons who are competent by training or experience.

## LP - Gas Storage

Liquefied petroleum gas (LP-Gas) is sometimes used at the workplace to provide fuel for temporary heating devices.

LP-Gas systems must have containers, valves, connectors, manifold valve assemblies, and regulators of an approved type. All cylinders must be DOT approved.

Rules for inside storage (under construction standards) are simple -- **it is not allowed!**

Under industry standards, up to 300 pounds of LP-Gas may be stored, with adherence to specific safety procedures. Also, highway mobile vehicles and trailers stored in garages in accordance with **\$1910.110** may be equipped to carry more than one LP-gas container, but the total capacity of LP-gas containers per work vehicle stored in garages must not exceed 100 pounds of LP-gas. All container valves must be closed when not in use.

Rules for outside storage requires that containers be in a suitable ventilated enclosure or otherwise protected against tampering. At least one approved portable fire extinguisher having a rating of not less than 20-B:C must be readily available.

The distances from buildings or groups of buildings that containers must be stored are as follows:

<u>Quantity of LP-Gas Stored</u>	<u>Distance in Feet</u>
500 lbs or less	0
501 to 6,000 lbs	10
6,001 to 10,000 lbs	20
over 10,000 lbs	25

Storage must not be near building openings or vehicular traffic.

## Machine Guarding

[29 CFR 1910.212: General requirements for all machines.](#)

[29 CFR 1910.217: Mechanical power presses.](#)

[29 CFR 1910.217: App A Mandatory requirement for certification/validation of safety systems for presence sensing device initiation of mechanical power presses](#)

[29 CFR 1910.217: App B Non-mandatory guidelines for certification/validation of safety systems for presence sensing device initiation of mechanical power presses](#)

[29 CFR 1910.217: App C Mandatory requirements for OSHA recognition of third-party validation organizations for the PSDI standard](#)

[29 CFR 1910.217: App D Non-mandatory supplementary information](#)

[29 CFR 1910.219: Mechanical power-transmission apparatus](#)

[29 CFR 1910.269 - Telecommunications](#)

Most injuries that occur when operating a machine happen at the point of operation -- the point on a machine where the actual work (cutting, bending, spinning) occurs. This is also the point where guards can protect fingers and hands exposed to that danger. Machine guarding also protects employees from other dangers such as flying pieces of metal, sparks, gears, belts, and rotating parts.

Accident prevention in this area is a function of machine design, engineering controls, and operator training. Types of machine guarding are almost as numerous as types of machines with the most common being a physical barrier to prevent accidental insertion of body parts. Guards are vital for safety reasons and machine guards designed into a machine should never be altered or removed. The speed and tremendous forces generated in modern machines is such that severe injury or even death could occur without warning and without even slowing the machine down.

Training and proper work methods go a long way toward reducing machine accidents. Like all safeguards, there is generally a way to bypass safety features that are engineered into machines. This is sometimes done to increase speed or just to make one's job easier. This could result in a tragic, avoidable accident. The few seconds saved could cause a lifetime of grief. Do not bypass safety systems.

Horizontal belts, pulleys, and gears which are less than seven feet from the floor will be guarded. Operate all machines according to the instruction manual and follow all safety procedures.

Because of the seriousness of machine guarding, specific guidelines for point of operation guarding follow:

Reference our Lockout-Tagout - Control of Hazardous Energy Program and Personal Protective Equipment Program.

OSHA's machinery and machine guarding standards require that one or more guarding methods be utilized to protect employees (operating, minor servicing and others nearby) from exposure to hazardous machine energy.

### **Methods of Machine Safeguarding**

There are many ways to safeguard machines. The type of operation, the size or shape of stock, the method of handling, the physical layout of the work area, the type of material, and production requirements or limitations will help to determine the appropriate safeguarding method for the individual machine.

As a general rule, power transmission apparatus is best protected by fixed guards that enclose the danger areas. For hazards at the point of operation (where moving parts actually perform work on stock) several kinds of safeguarding may be possible. One must always choose the most effective and practical means available.

## **Safeguard Classifications:**

### **Guards**

#### **a. Fixed**

A fixed guard is a permanent part of the machine. It is not dependent upon moving parts to perform its intended function. It may be constructed of sheet metal, screen, wire cloth, bars, plastic, or any other material that is substantial enough to withstand whatever impact it may receive and to endure prolonged use. This guard is usually preferable to all other types because of its relative simplicity and permanence.

#### **b. Interlocked**

When this type of guard is opened or removed, the tripping mechanism and/or power automatically shuts off or disengages, and the machine cannot cycle or be started until the guard is back in place. An interlocked guard may use electrical, mechanical, hydraulic, or pneumatic power or any combination of these. Interlocks should not prevent "inching" by remote control if required. Replacing the guard should not automatically restart the machine. To be effective, all movable guards should be interlocked to prevent occupational hazards.

#### **c. Adjustable**

Adjustable guards are useful because they allow flexibility in accommodating various sizes of stock.

#### **d. Self-adjusting**

The openings of these barriers are determined by the movement of the stock. As the operator moves the stock into the danger area, the guard is pushed away, providing an opening which is only large enough to admit the stock. After the stock is removed, the guard returns to the rest position. This guard protects the operator by placing a barrier between the danger area and the operator. The guards may be constructed of plastic, metal, or other substantial material. Self-adjusting guards offer different degrees of protection.

### **Devices**

#### **a. Presence Sensing**

##### **1. Photoelectrical (optical)**

The photoelectric (optical) presence-sensing device uses a system of light sources and controls which can interrupt the machine's operating cycle. If the light field is broken, the machine stops and will not cycle. This device must be used only on machines which can be stopped before the worker can reach the danger area. The design and placement of the guard depends upon the time it takes to stop the mechanism and the speed at which the employee's hand can reach across the distance from the guard to the danger zone.

##### **2. Radiofrequency (capacitance)**

The radiofrequency (capacitance) presence-sensing device uses a radio beam that is part of the machine control circuit. When the capacitance field is broken, the machine will stop or will not activate. Like the photoelectric device, this device will only be used on machines which can be stopped before the worker can reach the danger area. This requires the machine to have a friction clutch or other reliable means for stopping.

### 3. Electromechanical

The electromechanical sensing device has a probe or contact bar which descends to a predetermined distance when the operator initiates the machine cycle. If there is an obstruction preventing it from descending its full predetermined distance, the control circuit does not actuate the machine cycle.

#### b. Pullback

Pullback devices utilize a series of cables attached to the operator's hands, wrists, and/or arms. This type of device is primarily used on machines with stroking action. When the slide/ram is up between cycles, the operator is allowed access to the point of operation. When the slide/ram begins to cycle by starting its descent, a mechanical linkage automatically assures withdrawal of the hands from the point of operation.

#### c. Restraint

A restraint (holdout) device utilizes cables or straps that are attached to the operator's hands at a fixed point. The cables or straps must be adjusted to let the operator's hands travel within a predetermined safe area. There is no extending or retracting action involved. Consequently, hand-feeding tools are often necessary if the operation involves placing material into the danger area.

#### d. Safety Controls

Safety trip controls provide a quick means for deactivating the machine in an emergency situation.

##### 1. Safety Trip Control

###### i. Pressure-Sensitive Body Bar

A pressure-sensitive body bar, when depressed, will deactivate the machine. If the operator or anyone trips, loses balance, or is drawn toward the machine, applying pressure to the bar will stop the operation. Therefore, the positioning of the bar is critical. It must stop the machine before a part of the employee's body reaches the danger area.

###### ii. Safety Trip Rod

When pressed by hand, the safety trip rod deactivates the machine. Because the trip rod has to be actuated by the operator during an emergency situation, its proper position is also critical.

###### iii. Safety Tripwire Cable

Safety tripwire cables are located around the perimeter of or near the danger area. The operator must be able to reach the cable with either hand to stop the machine. All of these tripwire rods or other safety devices must be manually reset to restart the machine. Simply releasing the tripwire to restart the machine will not ensure that the employee is out of danger when the machine restarts.

##### 2. Two-Hand Control

The two-hand control requires constant, concurrent pressure by the operator to activate the machine. This kind of control requires a part-revolution clutch, brake, and a brake monitor if used on a power press. With this type of device, the operator's hands are required to be at a safe location (on control buttons) and at a safe distance from the danger area while the machine completes its closing cycle.

### 3. Two-Hand Trip

A two-hand trip requires concurrent application of both the operator's control buttons to activate the machine cycle, after which the hands are free. This device is usually used with machines equipped with full-revolution clutches. The trips must be placed far enough from the point of operation to make it impossible for the operator to move his or her hands from the trip buttons or handles into the point of operation before the first half of the cycle is completed. The distance from the trip button depends upon the speed of the cycle and the band speed constant. Thus, the operator's hands are kept far enough away to prevent them from being placed in the danger area prior to the slide/ram or blade reaching the full "down" position. To be effective, both two-hand controls and trips must be located so that the operator cannot use two hands or one hand and another part of his/her body to trip the machine.

### **Gates**

A gate is a movable barrier that protects the operator at the point of operation before the machine cycle can be started. In many instances' gates are designed to be operated with each machine cycle.

#### a. Interlocked

To be effective, the gate must be interlocked so that the machine will not begin a cycle unless the gate guard is in place. It must be in the closed position before the machine can function. If the gate is not permitted to descend to the fully closed position, the press will not function. Another potential application of this type of guard is where the gate is a component of a perimeter safeguarding system. Here the gate may provide protection not only to the operator but to pedestrian traffic as well.

### **Location/Distance**

A thorough hazard analysis of each machine and particular situation is absolutely essential before attempting this safeguarding technique. To consider a part of a machine to be safeguarded by location, the dangerous moving part of a machine must be so positioned that those areas are not accessible or do not present a hazard to a worker during the normal operation of the machine. This may be accomplished by locating a machine so that the hazardous parts of the machine are located away from operator work stations or other areas where employees walk or work and/or positioning a machine with its power transmission apparatus against a wall and leaving all routine operations conducted on the other side of the machine. Additionally, enclosure walls or fences can restrict access to machines.

Another possible solution is to have dangerous parts located high enough to be out of the normal reach of any worker. The feeding process can be safeguarded by location if a safe distance can be maintained to protect the worker's hands. The dimensions of the stock being worked on may provide adequate safety. For instance, if the stock is several feet long and only one end of the stock is being worked on, the operator may be able to hold the opposite end while the work is being performed. An example would be a single-end punching machine. However, depending upon the machine, protection might still be required for other personnel in the area. The positioning of the operator's control station provides another potential approach to safeguarding by location. Operator controls may be located at a safe distance from the machine if there is no reason for the operator to tend it.

## **Warning Signs**

If telecommunication work exposes energized or moving parts that are normally protected, danger signs will be displayed and barricades erected, as necessary, to warn other personnel in the area.

When power plant machinery in telecommunications centers is operated with commutators and couplings uncovered, the adjacent housing will be clearly marked to alert personnel to the rotating machinery. See *Signs & Tags*.

## **Basic Policy**

Power machinery must not be “energized” [connected to an energy source or containing residual or stored energy] unless it is under the control of a trained operator and the point of operation is guarded by one or more physical barriers or a physical device with the following exception:

Minor tool changes and adjustments, and other minor servicing activities, which take place during normal production operations, are not covered by this standard [Control of Hazardous Energy] if they are routine, repetitive, and integral to the use of the equipment for production, provided that the work is performed using alternative measures which provide effective protection.

or as provided under the servicing and maintenance testing and positioning requirements of paragraph 29 CFR 1910.147(f):

Testing or positioning of machines, equipment or components thereof. In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions will be followed:

- (i) Clear the machine or equipment of tools and materials.
- (ii) Remove employees from the machine or equipment area.
- (iii) Remove the lockout or tagout devices.
- (iv) Energize and proceed with testing or positioning.
- (v) De-energize all systems and reapply energy control measures to continue the servicing and/or maintenance.

Do not confuse the requirements of our Lockout-Tagout - Control of Hazardous Energy Program with the requirements of Machine Guarding. Even though minor tool changes, adjustments, and other minor servicing activities which take place during normal production operations are not covered by the Control of Hazardous Energy standard because they are routine, repetitive, and integral to the use of the equipment for production, machine guarding is still required to protect the employee who is performing the servicing operations mentioned above.

Failure to follow point of operation safety procedures and guidelines can generally result in loss of fingers. However, loss of any body part or even a fatal accident is a possibility.

## Machinery

Spinning, pounding, and moving – gears, pulleys, levers – electricity, fuel, and hydraulics – action, reaction, force: danger! Machinery takes energy and performs a task or a multitude of tasks. Machinery, from a safety standpoint, is a collection of individual, simple machines (pulleys, gears, etc.) combined to work in harmony to accomplish a specific job.

The danger is obvious: the power, speed, movement, and momentum of machinery is not going to be altered by something as insignificant as an employee's finger, hand, or even body.

How does one deal with the dangers of machinery?

- a. **Never** operate any machinery until you have received proper training and you thoroughly understand safety procedures as well as procedures to follow for adjustments, power interruption, jamming, lubrication, and inspection.
- b. Ensure the guarding systems are in place, functioning properly, and have not been altered or removed.
- c. If a hazard assessment of the machinery operation dictates specific personal protective equipment (PPE), wear it!
- d. From purely a safety standpoint, think of any power operated item with moving parts as machinery. This would include items as diverse as a small electric drill to an 80,000-pound tractor-trailer.

## **Material Storage**

### **General Requirement for Storage**

All materials stored in tiers will be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling or collapse.

Maximum safe load limits of floors within buildings and structures, in pounds per square foot, will be conspicuously posted in all storage areas, except for floor or slab on grade. Maximum safe loads will not be exceeded.

Aisles and passageways will be kept clear to provide for the free and safe movement of material handling equipment or employees. Such areas will be kept in good repair.

When a difference in road or working levels exist, means such as ramps, blocking, or grading will be used to ensure the safe movement of vehicles between the two levels.

### **Material Storage**

Material stored inside buildings under construction will not be placed within 4 feet of any hoistway or inside floor openings, nor within 10 feet of an exterior wall which does not extend above the top of the material stored.

Each employee required to work on stored material in silos, hoppers, tanks, and similar storage areas will be equipped with personal fall arrest equipment meeting the requirements of Fall Protection of this Safety Manual.

Noncompatible materials will be segregated in storage.

Bagged materials will be stacked by stepping back the layers and cross-keying the bags at least every 10 bags high.

Materials will not be stored on scaffolds or runways in excess of supplies needed for immediate operations.

Brick stacks will not be more than 7 feet in height. When a loose brick stack reaches a height of 4 feet, it will be tapered back 2 inches in every foot of height above the 4-foot level.

When masonry blocks are stacked higher than 4 feet, the stack will be tapered back one-half block per tier above the 6-foot level.

Used lumber will have all nails withdrawn before stacking.

Lumber will be stacked on level and solidly supported sills and will be so stacked as to be stable and self-supporting.

## Mold & Mildew

Molds and mildew are fungi that can be found inside a building in which employees of TINC are working. Within the United States, there are about 1,000 species of mold.

Problems may arise when mold starts eating away at materials, affecting the look, smell, and possibly, with the respect to wood-framed buildings, affecting the structural integrity of the buildings.

Molds can grow on virtually any substance, as long as moisture or water, oxygen, and an organic source, **such as wood**, are present. Molds reproduce by creating tiny spores (viable seeds) that usually cannot be seen without magnification. In fact, mold spores continually floating through both the indoor and outdoor air and these spores, alone, **do not create a problem**.

The problem occurs when mold spores land on a damp spot and begin growing. They digest whatever they land on in order to survive. Molds can grow on wood, paper, carpet, foods, insulation, and even dust and dirt that gathers in moist areas a building.

Over time, molds can gradually damage building materials and furnishings. If left unchecked, mold can eventually cause structural damage to a wood framed building, weakening floors and walls as it feeds on moist wooden structural members.

Most molds do not present a true health hazard in the general population. Molds can, however, cause adverse effects by producing allergens and the allergic reactions to mold can be either immediate or delayed. Allergic responses would include hay fever-type symptoms such as runny nose and red eyes.

Should mold be discovered on any of our locations, we will seek a professional mold remediation contractor.

Should mold develop at the facility where our employees are working, the following precautionary steps will be taken:

- a. Dust mask may be used for personal employee comfort.
- b. Items damaged by mold may be discarded a general waste with no special precautions needed.

## NFPA 70E

### Standard for Electrical Safety in the Workplace

OSHA has adopted by reference NFPA 70E-2000, *Standard for Electrical Safety Requirements for Employee Workplaces*.

A national consensus standard, such as NFPA 70E-2015, however, can sometimes be relevant to a general duty clause citation in the sense that the consensus standard may be used as evidence of hazard recognition and the availability of feasible means of abatement. The general duty clause, Section 5(a)(1) of the OSH Act, is violated if an employer has failed to furnish a workplace that is free from recognized hazards causing or likely to cause death or serious physical harm. The general duty clause is used where there is no standard that applies to the particular hazards involved.

All electrical work will be done in compliance with the National Electric Code (NEC), OSHA standards, and NFPA 70E. Both OSHA standards and NFPA 70E deal with worker safety, while the NEC deals with the design, installation, and inspection of electrical installations.

A copy of NFPA 70E will be readily available for reference, training, and employee use.

#### **Training:**

All employees who face electrical hazards that are not reduced to a safe level by the applicable electrical installation requirements will be trained in safety-related work practices and procedural requirements as necessary to provide protection from the electrical hazards associated with the job assignments. Employees will be trained to identify and understand the relationship between electrical hazards and possible injury.

Training will be in a classroom and/or on-the-job and the degree of training will be determined by the risk to the employee.

Employees will receive training in emergency procedures including methods of release from contact with exposed energized electrical conductors or circuit parts, methods of first aid, and CPR if the duties warrant such training. Eric Rogers, our Safety Director will certify that employees have been trained in approved methods of resuscitation annually.

#### **Training for Qualified Persons:**

**Note:** A qualified person has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved.

- a. Qualified persons must be trained and knowledgeable of the construction and operation of equipment or a specific work method and to recognize and avoid the electrical hazards with respect to the equipment or work methods.
  1. Qualified persons will be familiar with the proper use of special precautionary techniques, PPE, including arc-flash, insulating and shielding materials, and insulated tools and test equipment.

**Note:** A person can be qualified with respect to certain equipment and methods but still be unqualified for others.

2. Qualified persons will be permitted to work with the Limited Approach Boundary of exposed energized electrical conductors and circuit parts operating at 50 volts or more and will be trained in the following:
  - i. The skills and techniques necessary to distinguish exposed energized electrical conductors and circuits parts from other parts of electrical equipment
  - ii. The skills and techniques necessary to determine the nominal voltage of exposed energized electrical conductors and circuit parts.
  - iii. The approach distances specified in Table 130.2(c) and the corresponding voltages to which the qualified person will be exposed.
  - iv. The decision-making process necessary to determine the degree and extent of the hazard and the PPE and job planning necessary to perform the task safely.
- c. If undergoing OJT and, in the course of the OJT has demonstrated an ability to perform duties safely under the direct supervision of a qualified person, this person will be considered qualified for the performance of these duties.
- d. Tasks performed less often than once per year will require retraining before performance of the work practices involved.
- e. Qualified persons will be trained to select an appropriate voltage detector and demonstrate how to use a device to verify the absence of voltage, including interpreting indications provided by the device. They will be trained to understand all limitations of each specific voltage detector that may be used.

#### **Training for Unqualified Persons:**

Unqualified persons will be trained in and be familiar with any of the electrical safety related practices that are necessary for their safety.

**Note:** Unqualified persons will not be permitted to enter spaces that are required to be accessible to qualified employees only unless the electric conductors and equipment involved are in an electrically safe work condition.

#### **Retraining:**

Retraining will be given when.

- a. Supervisors or annual inspections indicate that the employee is not complying with the safety-related work practices.
- b. New technology, new types of equipment, or changes in procedures necessitate the use of safety-related work practices that are different than those the employee would normally use.
- c. If the employee must employ safety-related work practices that are not normally used during regular job duties.

#### **Training Documentation:**

The company will document that each employee has received the training above after the employee demonstrates proficiency in the work practices involved and will be maintained for the duration of the employee's employment. Training documentation will contain the employee's name and dates of training.

### **Host Employer Responsibilities:**

The host employer will inform contract employers of:

- a. Known electrical hazards that are related to the contract employer's work that might not be recognized by the contract employer or its employees.
- b. Information about the employer's installation that the contract employer needs to make assessments.

The host employer will report observed contract employer related violations (dealing with electrical work) to the contract employer.

### **Contract Employer Responsibilities:**

- a. The contract employer will ensure that each of its employees is instructed in the hazards communicated to the contractor employer by the host employer. This instruction is in addition to the basic instruction required by NFPA 70E.
- b. The contract employer will ensure that each of its employees follow the work practices required by NFPA 70E and safety-related work rules required by the host employer.
- c. The contractor employer will advise the host employer of:
  1. Any unique hazards presented by the contract employer's work.
  2. Any unanticipated hazards found during the contract employer's work that the host employer did not mention.
  3. The measures the contractor took to correct any violations reported by the host employer & prevent such violations from recurring in the future.

### **Electrical Safety Program:**

The employer will implement and document an overall safety program that directs activity appropriate for the voltage, energy level, and circuit conditions. Safety related work practices are only one component of an overall an electrical safety program.

### **Electrical Safety Program Procedures:**

The program will address safety related work practices for working within the Limited Approach Boundary. Program elements found in Annex E to NFPA 70E would be included such as evaluations, anticipating unexpected events, electrical flash arc hazard analysis, and the fact that all electrical parts are considered live until proven otherwise.

### **Risk/Hazard Evaluation Procedures:**

Risk/hazard evaluation procedures are to be used before work is started within the Limited Approach Boundary of energized electrical conductors & circuit parts operating at 50 volts or more or where an electrical hazard exists. An example of Hazard/Risk Evaluation Procedures as well an example of a Hazard Risk Analysis Evaluation Flow Chart is found in Annex F to NFPA 70E. It would contain event severity, frequency, probability & avoidance to determine the level of safe practices to be employed.

### **Pre-Job Briefings for Routine Work:**

Prior to performing routine work (routine work is not complicated or particularly hazardous and the employee should be able to recognize and avoid hazards presented), a job briefing will be held before each job and include all employees involved. Topics would include hazards associated with the job, work procedures involved, special precautions, energy source controls, & PPE requirements.

### **Test Instruments and Equipment:**

All test instruments, equipment, and their accessories will be rated for the circuits and equipment to which they will be connected. Further they will meet the requirements of ANSI/ISA-66010-1, *Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements*, for rating and design requirements for voltage measurement and test instruments intended for use on electrical systems 1000 volts and below.

### **Operations Verification:**

When test instruments are used for the testing for the absence of voltage on conductors or circuit parts operating at 50 volts or more, the operation of the test instrument will be verified before and after an absence of voltage test is performed.

### **Insulating PPE Maintenance and Use:**

Electrical protective equipment will be maintained in a safe, reliable condition. Insulating equipment will be inspected for damage before each day's use and immediately following any incident that can reasonably be suspected of having caused damage. Insulating gloves will be given for an air test along with the inspection.

Maximum test intervals for rubber insulating equipment will be in accordance with NFPA 70E Table 130(c)(6)(c). Time frames for testing would include: 1) Blankets-before first issue/every 12 months, thereafter, 2) Gloves-before first issue and every 6 months, and, 3) Sleeves-before first issue and every 12 months. Covers and line hose will be tested if insulating value is suspect.

### **Energized Electrical Work Permit:**

Reference Annex J to NFPA 70E. Energized Electrical Work Permits **are not** part of NFPA 70E. Within Annex J, however, are both an example of an Energized Electrical Work Permit and a Flow Chart to illustrate items to consider when determining the need for the permit.

In every case, if the voltage level is  $\geq 50$  volts and there are exposed live parts, an Energized Electrical Work Permit is required.

In Part I [to be completed by the Requester] of the Energized Electrical Work Permit will include:

- a. Job/Work Order Number.
- b. Description of the work to be done.
- c. Justification of why the circuit/equipment cannot be de-energized or the work deferred until the next scheduled outage.
- d. Requester Name, Title, and Date.

In Part II (to be completed by the Electrically Qualified persons doing the work) of the Energized Electrical Work Permit will include:

- a. Detailed job description procedure to be used in performing the above detailed work.
- b. Description of the Safe Work Practices to be employed.
- c. Results of the Shock Hazard Analysis.
- d. Determination of the Shock Protection Boundaries.
- e. Results of the Arc Flash Hazard Analysis.
- f. Determination of the Arc Flash Protection Boundary.
- g. Necessary personal protective equipment to safely perform the assigned task.
- h. Means employed to restrict the access of unqualified persons from the work area.
- i. Evidence of completion of a Job Briefing including discussion of any job-related hazards.
- j. A signed and dated agreement by each Electrical Qualified Person that the above work can be done safely.

In Part III of the Energized Electrical Work Permit will include:

Signed and dated approval(s) by persons such as:

- a. Manufacturer Manager
- b. Safety Manager
- c. General Manager
- d. Maintenance/Engineering Manager
- e. Electrically Knowledgeable Person

**Illumination of Work Areas:**

Employees will not enter spaces containing electrical hazards unless illumination is provided that enables the employees to perform the work safely. Where lack of illumination or an obstruction precludes observation of the work to be performed, employees will not perform any task with the Limited Approach Boundary of energized electrical conductors or circuit parts operating at 50 volts or more or where an electrical hazard exists.

## **Platforms**

Open sided platforms or floors 4 feet above a lower level must be guarded by standard railings. If an employee's work requires him or her to work at a height of 4 feet or more above a lower level and standard guardrails are not available, fall protection will be provided by a safety harness and lanyard. Particular attention will be paid to the anchorage point to ensure that it is capable of the stresses that may be placed upon it.

## Press Brake Operations

During press brake operations, under normal circumstances, machine guarding procedures are required in the same manner as any other machine. However, because of constraints imposed by certain manufacturing or fabricating processes, safeguarding by maintaining a safe distance from the point of operation is an acceptable procedure when safeguarding by physical barriers or devices is not feasible. "Safe distance" means the clearance between an employee (typically his or her fingers holding and supporting a piece part) and the power press brake point of operation.

Safeguarding by maintaining a "safe distance" is acceptable only if the following conditions are met:

- a. It is demonstrated that physical barriers and physical devices are not feasible to guard the press brake point of operation. Physical devices typically include: two hand controls, holdouts or restraints and presence sensors.

Remember normal machine guarding procedures, where feasible, will be employed at hazardous energy sources, not at the point of operation and elsewhere on the machine.

- b. It is demonstrated that power press brake point of operation guarding by maintaining a safe distance is limited to one-time only fabrications of made-to-order or custom-made piece parts. Small quantity runs may be affected by this provision; high volume piece part rates of production will not. A "small quantity run" is defined as "fabrication of more than one of the same piece parts over a continuous time frame of not more than four hours per month.

**Note: Special feasibility guidelines for small quantity runs: When physical guards and physical devices are not feasible for small quantity runs as defined above, safeguarding by maintaining a safe distance as described is an alternative to power press brake replacement or major renovation which otherwise could provide employee protection.**

- c. A safety program is established which includes safe work procedures, training, and supervision to ensure that work is performed using "safe distance" alternative measures.
- d. A workplace history of operating power press brakes safely by maintaining a safe distance from the point of operation can be demonstrated. Such a history is characterized by absence of injuries related to failure to maintain a safe distance.

While ANSI B511.3-2012, the standard that covers power press brakes, does not specify a specific "safe distance, OSHA has decreed that the operating employee and helping employee(s) must not approach closer than necessary and in no case closer than 4 inches to the power press brake point of operation. The minimum safe distance of 4 inches is measured from the exterior point of contact of the power press brake die closest to an employee.

### **“Safe Distance” Safeguarding:**

All press brake operator and helpers, through interactive training, will have a thorough understanding of:

- a. The need for a safety oriented working relationship between the press brake operator and, when required, his or her helper(s).
- b. The function and purpose of operating controls; operating mode controls; die space height adjustment positions; and other brake controls.
- c. The hazards of placing any parts of the body within the point of operation.
- d. The hazards and potential exposure related to each specific piece part bending operation particularly with respect to the piece part itself (for example whipping) and to tooling (including loading and unloading).
- e. The function and purpose of hand-feeding tools.
- f. The dangers of unsafe work practices, inattention, horseplay, and misuse of equipment.
- g. The necessity and importance of reporting immediately to the supervisor any condition concerning the power press brake and its operation that may affect the safety of an employee.

### **Effectiveness of Training:**

It will be assured that, after training, employees perform applicable exposure procedures proficiently. Power press brake operators and helpers must also comply with safe operating instructions and recommendation of the power press brake manufacturer or industry-recognized safe working practices for power press brakes. Successful completion of apprenticeship training may be referenced to demonstrate this element of employee proficiency.

### **Retraining:**

Retraining must be conducted whenever a periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in an employee's knowledge or use of exposure prevention procedures(s) or other work practices required to operate a power press brake. Retraining will be used to introduce new or revised control methods and procedures, as necessary, and must reestablish employee proficiency to operate the power press brake safely.

Supervisors will ensure that power press brakes are operated only by trained employees and will enforce the work practices on which the power press brake training is based. Any deviation from safe work practices will be corrected immediately.

At least annually, a periodic inspection of the “safe distance” exposure prevention procedures will be conducted to ensure that they are being properly followed. This inspection will be performed by a trained person (an inspector) who is other than the person using the “safe distance” exposure prevention procedure. This periodic inspection report will include:

- a. A joint review by an inspector and each trained employee of that employee's responsibility under the exposure prevention procedure.
- b. The identity of the power press brake on which the exposure prevention procedures was being utilized.
- c. The date of the inspection.
- d. The name(s) of the employees included in the inspection.
- e. The name of the inspector.

## **Ramps**

To load or unload lawn care equipment from truck and/or trailers, ramps generally will be used. Employees are to ensure that ramp capacities are not exceeded.

Portable ramps should be level and securely fastened to the truck or trailer bed. If the ramp does not have hooks, straps will be used.

## Scissor-Lift Fall Protection

What type of fall protection is required for scissor-lifts? This apparently simple question has a relatively simple answer. However, how it is derived is somewhat complicated because OSHA does not have a standard to deal with this issue.

Clearly, there is a hazard – falling from height. However, fall protection while using a scissor-lift is not covered in the fall protection, scaffold and ladder fall protection, nor aerial lift fall protection standards.

Section 5(a)(1) of the Occupational Safety and Health Act, commonly referred to as the General Duty Clause is a “catch all clause” which states: “Each employer will furnish to each of its’ employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.”

In the absence of a specific standard relating to a safety or health risk, the above is the reference OSHA will cite.

When assessing compliance efforts, OSHA considers the requirements of pertinent national consensus standards. In the case of scissor-lifts, ANSI/SIA A92.6-1990, Self-propelled Elevated Work Platforms, and ANSI/SIA A92.3, Manually Propelled Elevating Aerial Platforms, are used.

Fall protection is provided by employees maintaining firm footing on the lift and using guardrails. Under no circumstances are employees to place ladders or other items on the lift to extend their reach. Per ANSI/SIA standards, with which OSHA concurs, “Use of planks, ladders, or any other device on the aerial platform for achieving additional height or reach will be prohibited.” Use of these items negates the value of the guardrail system and may possibly exceed the scissor-lift’s design limits for stability.

Further, personnel are not to tie off to items adjacent to the lift – the most obvious reasons are: the anchorage point may not be sufficient, and movement of the lift would pull the employee out of and off of the lift.

If, for some reason, guardrails are not being provided for specific operational reasons, then a personal fall protection system may be used which would include an anchorage point, lanyard and safety harness.

However, this option is severely limited because its design would have to be approved by a registered engineer or the scissor-lift manufacturer would have to approve the use of the lift as an anchorage.

Under ideal conditions, rarely found on a construction site, scissor-lifts may be moved with the lift extended. However, should obstacles, debris, drop-offs, holes, depressions, ramps or other hazards be present, the lift must be lowered prior to movement.

Finally, if the employee leaves the safety of the scissor-lift platform while working at height, some sort of approved fall protection system must be employed.

## Signs & Tags

### **29 CFR 1910.145: Specifications for accident prevention signs and tags**

When appropriate, signs and tags will be used to warn of specific hazards. Types of signs are classified according to their use, and their design is regulated by OSHA standard. All personnel will be instructed in the meaning of the various types of signs. Sign usage includes:

- a. Danger Signs (Red, Black & White): indicates immediate danger and denotes that special precautions are necessary.
- b. Caution Signs (Yellow Background): warns of a potential hazard or cautions against an unsafe practice.
- c. Safety Instruction Signs (White Background): used to provide general instructions and suggestions relative to safety measures.

The wording on signs must be positive, clear, concise, and easy to understand or the sign loses its value.

Accident prevention tags are to warn of hazardous or potentially hazardous conditions that are out of the ordinary, unexpected, or not readily apparent. They are not used where signs, guarding or other positive means of protection are used. All tags must have:

- a. A signal word: "Danger," "Caution," "Warning," "BIOHAZARD" (or its symbol) and a major message, and
- b. A major message such as: "High Voltage" or "Do not start". (Major messages indicate the specific hazardous condition.)

The color scheme is basically the same as for signs:

red =	danger
yellow =	caution
orange =	warning
fluorescent orange =	biological hazard

- a. Danger Tags: indicate an immediate hazard that presents a threat of death or serious injury.
- b. Caution Tags: indicate a non-immediate hazard or unsafe practice that presents a lesser threat of injury.
- c. Warning Tags: indicate a hazard between "Danger" and "Caution".
- d. BIOHAZARD Tags: indicate the actual or potential presence of a biological hazard and identify equipment, rooms, containers, etc. that may be contaminated.

Pay attention to signs and tags and realize that they are in place for only one reason – your safety.

## Slings

### **29 CFR 1910.184 - Slings**

A sling is the assembly which connects a load to the material handling equipment. There are many types of slings including, but not limited to:

- a. Bridle wire rope sling
- b. Cable laid endless sling-mechanical joint sling
- c. Cable laid grommet-hand tucked sling
- d. Cable laid rope sling-mechanical joint sling
- e. Strand laid endless sling-mechanical joint sling
- f. Strand laid grommet-hand-tucked sling

Additionally, slings are made of various materials such as alloy steel chain, wire rope, and natural and synthetic fiber rope. Each of these materials has their own operating limits which include not only capacity, but temperature, kinks, cuts, and specific conditions.

Detailed instructions on the use of each type of sling can be found here: **29 CFR 1910.184 - Slings.**

All slings, regardless of type, must be inspected each day before use and all fastenings and attachments must be inspected for damage or defects by a competent person. Depending on work conditions, additional inspections may be required. Damaged or defective slings will be immediately removed from service.

Below are safe operating practices which must be followed:

- a. Slings may not be shortened with knots or bolts or other makeshift devices.
- b. Sling legs may not be kinked.
- c. Slings may not be loaded in excess of their rated capacities.
- d. Slings used in a basket hitch must have the load balanced to prevent slippage.
- e. Slings must be securely attached to their loads.
- f. Slings must be padded or protected from the sharp edges of their loads.
- g. Suspended loads must be kept clear of all obstructions.
- h. All employees must be kept clear of loads about to be lifted and of suspended loads.
- i. Hands or fingers may not be placed between the sling and its load while the sling is being tightened around the load.
- j. Shock loading is prohibited.
- k. A sling may not be pulled from under a load when the load is resting on it.

## Spray Operations

[29 CFR 1910.94 - Ventilation](#)

[29 CFR 1910.106 - Flammable and combustible liquids](#)

[29 CFR 1910.107 - Spray finishing using flammable and combustible materials](#)

[29 CFR 1910.160 - Fixed extinguishing systems, general](#)

[29 CFR 1910.161 - Fixed extinguishing systems, dry chemical](#)

The primary hazards that must be addressed when performing spray operations are respiratory, electrical, and fire.

Even the simplest of spray operations - spraying water-based paint from a handheld aerosol can - would involve protection from the hazardous and/or toxic ingredients within the paint as indicated on the product's SDS. Care must be taken to ensure that employees are not exposed to chemical hazards above the permissible exposure limit. If needed, respiratory protection and other types of PPE, as appropriate (such as eye protection), must be employed.

More complex spraying operations would involve applying coatings within a spray booth. A spray booth is a power-ventilated structure designed to enclose a spraying operation and limit the escape of spray, vapor, and/or residue. Excess spray, vapor and/or residue is directed to an exhaust system which contains filters.

Employees will receive training in spray booth operations including emergency procedures, PEL's, PPE, electrical hazards, and fire protection prior to use. Appropriate SDS will be readily available.

Spray booth designs will meet the requirements of 29 CFR 1910.107. All spray booths must be equipped with approved automatic sprinklers on the upstream and downstream sides of the filters.

**Note:** A dry chemical extinguishing system or a carbon dioxide system may be installed in lieu of the above per 29 CFR 1910.160 and 29 CFR 1910.161.

The system will be checked at least annually (semi-annually for the weight and pressure of refillable containers, if applicable) and employees will be trained on its operation including recognition of alarms.

The OSHA requirements that address inside storage of flammable materials such as paints including the maximum size of the room, ventilation, fire protection systems, and electrical wiring and equipment inside the room are found in 29 CFR 1910.106(d)(4).

## Tools - Hand

### 29 CFR 1910.242 - Hand and Portable Powered Tools and Equipment - General

### 29 CFR 1910.243 - Guarding of Portable Powered Tools

### 29 CFR 1910.269 - Telecommunications

All hand and power tools and similar equipment, whether furnished by the employer or the employee, will be maintained in a safe condition.

Portable electric hand tools will be:

- a. equipped with a three-wire cord having the ground wire permanently connected to the tool frame and means for grounding the other end; **or**
- b. of the double insulated type and permanently labeled as "Double Insulated"; **or**
- c. connected to the power supply by means of an isolating transformer, or other isolated power supply.

Here are basic procedures for the use of hand tools:

- a. Hand tools will be used only for the purpose for which they are designed.
- b. Hand tools will be kept clean and, where appropriate, oiled.
- c. Hand tools which are damaged will not be used.
- d. Handheld cutting tools will be kept sharp and will be sheathed or retracted when not in use.
- e. When using a striking tool such as a hammer or chisel, safety glasses or safety goggles will be used.
- f. Do not force tools.
- g. If you are unfamiliar with the proper procedure for using a tool, ask your Supervisor for instruction.
- h. Power tools may be operated only by those persons who are qualified by training or experience.
- i. Do not alter guards on power tools; wear appropriate PPE.
- j. Electrical tools must be grounded, and, in the absence of permanent wiring, a Ground Fault Circuit Interrupter must be used.
- k. Electric tools will not be lifted by their cords and pneumatic tools will not be lifted by their hoses.

Nominal 120V or less portable generators used for providing power at work locations do not require grounding if the output circuit is completely isolated from the frame of the unit.

Vehicle-mounted utility generators used for providing nominal 240V AC or less for powering portable tools and equipment need not be grounded to earth if all of the following conditions are met:

- a. One side of the voltage source is solidly strapped to the metallic structure of the vehicle;
- b. Grounding-type outlets are used, with a "grounding" conductor between the outlet grounding terminal and the side of the voltage source that is strapped to the vehicle;
- c. All metallic encased tools and equipment that are powered from this system are equipped with three-wire cords and grounding-type attachment plugs, except as detailed below.

Portable lights, tools, and appliances having noncurrent-carrying external metal housing may be used with nominal 120V or less portable generators as described above without an equipment grounding conductor. When operated from commercial power, metal parts of these devices must be grounded, unless these tools or appliances are protected by a system of double insulation, or its equivalent. Where such a system is employed, the equipment will be distinctively marked to indicate double insulation.

#### Soldering Devices and Lead Work

Grounding will be omitted when using soldering irons, guns, or wire-wrap tools on telecommunications circuits.

The wiping of lead joints using melted solder, gas fueled torches, soldering irons or other appropriate heating devices, and the soldering of wires or other electrical connections do not constitute the welding, cutting, and brazing described in [1910 Subpart Q](#). When operated from commercial power the metal housing of electric solder pots must be grounded. Electric solder pots may be used with nominal 120V or less portable generators as described above without a grounding conductor. Wiping gloves or cloths and eye protection must be used in lead wiping operations. A drip pan to catch hot lead drippings must also be provided and used.

## Tools - Pneumatic Powered

Pneumatic powered tools must be safeguarded whenever there are hazardous employee exposures. This is especially important for point of operation guarding.

Three specific hazards associated with pneumatic powered tools which are unique to their use are noise levels, tool retention, and air hose pressure.

Care must be taken to assure that noise levels are within acceptable limits (noise monitoring may be necessary) and, if required, engineering controls and/or ear protection will be employed.

Eye protection will be worn when using pneumatic powered tools in accordance with the owner/operator's manual.

- a. Pneumatic power tools will be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.
- b. Safety clips or retainers will be securely installed & maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.
- c. All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 p.s.i. pressure at the tool will have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.
- d. Compressed air will not be used for cleaning purposes except where reduced to less than 30 p.s.i. & then only with effective chip guarding & personal protective equipment which meets the requirements of 29 CFR 1926 Subpart E. This would include eye, face, hand, head, & foot protection. The 30 p.s.i. requirement does not apply for concrete form, mill scale & similar cleaning purposes.
- e. The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings will not be exceeded.
- f. The use of hoses for hoisting or lowering tools will not be permitted.
- g. All hoses exceeding 1/2-inch inside diameter will have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
- h. Airless spray guns of the type which atomize paints and fluids at high pressures (1,000 pounds or more per square inch) will be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released.  
**Note: In lieu of the above, a diffuser nut which will prevent high pressure, high velocity release, while the nozzle tip is removed, plus a nozzle tip guard which will prevent the tip from coming into contact with the operator, or other equivalent protection, will be provided.**
- i. Lastly, abrasive blast cleaning nozzles will be equipped with an operating valve which must be held open manually. A support will be provided on which the nozzle may be mounted when it is not in use.

Care must be taken to ensure that employees are not exposed to unsafe levels of respirable dust or crystalline silica.

The PEL for particles not otherwise regulated is 5.0 mg/m<sup>3</sup>. The PEL for respirable dust containing crystalline silica is determined by the below formula:

PEL = 10 mg/m<sup>3</sup> ÷ (%SiO<sub>2</sub>+2), where %SiO<sub>2</sub>+2 refers to the amount of crystalline silica measured in the sample.

Our operations would not exceed these PEL's and respiratory protection is not required.

## Truck Operations

Employees are reminded that truck operations performed everywhere except over-the-road are subject to OSHA standards and guidelines.

**Note:** OSHA has jurisdiction over off-highway loading and unloading, such as warehouses, plants, grain handling facilities, retail locations, marine terminals, wharves, piers, and shipyards.

- a. Within the truck or tractor cab, there will be:
  1. An appropriate B:C fire extinguisher [inspected monthly for general condition and adequate charge & serviced and certified by qualified personnel at least annually].
  2. A first aid kit.
  3. Appropriate PPE for loading & unloading and working around the truck while not on the highway. Reference our PPE program in Section III of this safety program.
- b. When entering or exiting a truck or tractor cab, the employees are required to use provided steps & grab holds. Of course, seat belt use is required.
- c. When loading or unloading a box truck or trailer at a loading dock, the brakes will be set, the engine will be turned off [or the tractor cab disconnected from the semi-trailer] and the unit will be firmly attached to the dock and/or wheel chocks will be used.
- d. Only employees who have received training in powered pallet-jack operations will be authorized to operate them. Training will be given by a competent, by virtue of training or experience, person
- e. No employee may enter a tank type trailer without utilizing the provisions of our permit-required confined space program found in this safety program.
- f. In the event of an injury or occupational illness, the office will be contacted as soon as possible. An accident/injury report will be prepared.

## Ventilation

### 29 CFR 1910.94 - Ventilation

#### CPL 03-00-008 - Combustible Dust National Emphasis Program

There may be times in the course of our work such as grinding, cutting, sawing, sanding, etc. that hazardous dusts are released into the atmosphere that exceed the concentrations specified in 29 CFR 1910.1000 - Table Z-3 Mineral Dust, listed below:

Table Z-3 - Mineral Dusts		
<u>Substance</u>	<u>mppcf<sup>a</sup></u>	<u>mg/m<sup>3</sup></u>
Silica:		
Crystalline		
Quartz (Respirable) <sup>f</sup>	250 <sup>b</sup> ----- %SiO <sub>2</sub> + 5	10 mg/m <sup>3</sup> e ----- % SiO <sub>2</sub> + 2
Cristobalite: Use ½ the value calculated from the count or mass formulae for quartz. <sup>f</sup>		
Tridymite: Use ½ the value calculated from the formulae for quartz <sup>f</sup>		
Amorphous, including natural diatomaceous earth	20	80 mg/m <sup>3</sup> ----- %SiO <sub>2</sub>
Silicates (less than 1% crystalline silica):		
Mica	20	
Soapstone	20	
Talc (not containing asbestos)	20 <sup>c</sup>	
Talc (containing asbestos) Use asbestos limit		
Tremolite, asbestiform (see 29 CFR 1910.1001)		
Portland cement	50	
Graphite (Natural)	15	
Coal Dust:		
Respirable fraction less than 5% SiO <sub>2</sub>		2.4 mg/m <sup>3</sup> e
		10 mg/m <sup>3</sup> e
Respirable fraction greater than 5% SiO <sub>2</sub>		----- %SiO <sub>2</sub> + 2
Inert or Nuisance Dust: <sup>d</sup>		

Respirable fraction	15	5 mg/m <sup>3</sup>												
Total dust	50	15 mg/m <sup>3</sup>												
Note-Conversion factors - mppcf × 35.3 = million particles per cubic meter = particles per c.c.														
a Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.														
b The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.														
c Containing less than 1% quartz; if 1% quartz or more, use quartz limit.														
d All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.														
e Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:														
<table><tr><th>Aerodynamic diameter (unit density sphere)</th><th>Percent passing selector</th></tr><tr><td>2</td><td>90</td></tr><tr><td>2.5</td><td>75</td></tr><tr><td>3.5</td><td>50</td></tr><tr><td>5.0</td><td>25</td></tr><tr><td>10</td><td>0</td></tr></table>			Aerodynamic diameter (unit density sphere)	Percent passing selector	2	90	2.5	75	3.5	50	5.0	25	10	0
Aerodynamic diameter (unit density sphere)	Percent passing selector													
2	90													
2.5	75													
3.5	50													
5.0	25													
10	0													
The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m <sup>3</sup> in the table for coal dust is 4.5 mg/m <sup>3</sup> K.														
f This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or is otherwise not in effect.														

Below these threshold limits, no action is required; however, employees may wear dust masks for personal comfort.

**Note:** OSHA requires that employees who voluntarily use disposable respirators in situations where respiratory protection is not specifically required by OSHA standard (in atmospheres where exposures are below the permissible exposure limit) essentially for personal comfort or additional, though not required, respiratory protection be informed of 29 CFR 1910.134 Appendix D.

As always, engineering controls are preferred to personal protective equipment to deal with workplace hazards. Therefore, local exhaust ventilation is a preferred method of maintaining atmospheres that have dust levels below the concentrations noted in the Mineral Dusts Table, above. Local exhaust ventilation must be designed so that they prevent dispersions of dust in concentrations causing harmful exposure and that dusts are not drawn through the work area of employees. The dust collected by an exhaust or ventilating system will be discharged to the outside atmosphere.

If concentrations are so great that a dust separator is used, the dust & refuse will be disposed of in such a manner as to not harm employees. Of course, if the above ventilation procedures do not reduce the dust levels to acceptable limits, respirators will be used.

## **Welding, Cutting, & Hot Work**

### **29 CFR 1910.252 - General requirements**

### **29 CFR 1910.253 - Oxygen-fuel gas welding and cutting**

### **29 CFR 1910.254 - Arc welding and cutting**

### **29 CFR 1910.1026 - Chromium (VI)**

### **29 CFR - Table Z-1 – Limits for Air Contaminants**

Employees assigned to operate arc welding, cutting, and oxygen-fuel welding and/or brazing equipment, **and their supervisors**, must be properly trained and instructed in the operation of such equipment. Proper PPE will be worn by all welders.

Before welding or cutting, the supervisor or competent person will inspect the area with emphasis on fire prevention and authorize welding or cutting using our Hot Work Permit noting special precautions that must be taken.

An appropriate fire extinguisher and first aid equipment will be readily available for immediate use.

### **Compressed Gas Cylinders Use:**

Compressed gas cylinders are used at many facilities – the most common being oxygen and acetylene for welding.

Failure to follow basic safety procedures could result in serious injuries such as:

- a. Flash burn – due to explosion.
- b. Fragment impalement – due to explosion.
- c. Compression of the foot – due to mishandling of tanks.
- d. Inhalation of hazardous gases – due to leakage.

Basic safety procedures for gas cylinder use:

- a. Cylinders must remain upright and chained to a substantial support or cart when in use.
- b. Wear appropriate personal protective equipment for the job – such as steel toed shoes, apron, goggles, gloves, helmet, etc.
- c. Read and understand the SDS for the gas being used and know the location of the SDS in case of an emergency.
- d. Have appropriate fire extinguisher readily available.
- e. To release the gas, open the cylinder valve slowly – standing away from the face and back of the gauge – and leave the opening tools in place (on the valve stem) for quick shut-off in the event of an emergency.
- f. Ensure cylinder valves, regulators, couplings, and hoses are free of oil and grease and ensure all connections are tight.
- g. When using oxygen-fuel systems, use flashback arrestors and reverse-flow check valves to prevent flashback.
- h. Keep cylinders away from open flames and sources of heat.
- i. Cylinders are never allowed in confined spaces.
  - 1. When welding or cutting in a confined space, the tanks must remain outside the confined space.
  - 2. Appropriate ventilation must be assured, portable equipment must be secured to prevent movement, if appropriate, and a rescue plan should be prepared.

3. If the rescue plan involves pulling the person out, attachment of the lifelines should be so the person's body does not jam in the exit and prevent his extraction.
  4. If arc welding is suspended for a substantial period of time, the electrodes must be removed to prevent accidental contact and the machine must be disconnected from the power source.
  5. If gas cylinder work is suspended, the torch valves must be closed and the fuel-gas and oxygen supply must be positively shut off or disconnected outside the confined space.
  6. After welding operations are completed, the welder must mark the hot metal or provide some other means of warning other workers.
- j. Do not alter or attempt to repair safety devices or valves.
  - k. Remove the regulators when: a) moving cylinders; b) work is completed, and/or c) cylinders are empty.

Compressed gas cylinders will:

- a. Have valve protectors in place when not in use or connected for use.
- b. be legibly marked to identify the gas contained therein.
- c. Have the valves closed before the cylinder is moved, when the cylinder is empty, and at the completion of each job.
- d. Be stored in areas away from intense heat, electric arcs, and high temperature lines.
- e. Be secured upright (chained in portable dolly), in storage or transportation, to prevent tipping, falling, rolling, and damage from passing or falling objects. Oxygen cylinders must be kept 20 feet from any flammable gases or petroleum products.
- f. Be marked "EMPTY" when appropriate.
- g. Be removed from service if the regulators or gauges are defective.
- h. Be used only for the purpose for which they are designed -- for example, cylinders will not be used as rollers or supports.
- i. Be kept away from stairs.
- j. Workers in charge of oxygen or fuel-gas supply equipment (including distribution piping systems and generators) must be instructed and judged competent for such work.

Regulators and gauges will be inspected daily.

All cylinders, cylinder valves, couplings, regulators, hoses and apparatus will be kept free of oily or greasy substances.

Operators of welding equipment will report any equipment defect or safety hazards and discontinue use of equipment until its safety has been assured. Repairs will be made only by qualified personnel.

Persons performing arc welding and cutting must be properly instructed and qualified to operated such equipment and, if performing gas shielded arc welding, must be familiar with Recommended Safe Practices for Gas-Shielded Arc Welding, A6.1-1966, American Welding Society, as well as 29 CFR 1910.252.

Electric welders will be inspected daily before use with emphasis on the cables. All splicing of cables must maintain the insulated protection with no exposed metal parts. Cables in need of repair will not be used.

The competent person will ensure that ventilation within a confined space is adequate to negate the possibility of a respiratory or explosion hazard.

A fire watch will be assigned when there is potential a fire might develop. Of course, any person assigned to fire watch must have received training in the specific fire extinguishing equipment being used. When welding, cutting, or brazing an object near a fire hazard that is not readily movable, the fire hazard will be removed. If any fire hazards remain, shields will be used to confine the sparks, heat, and slag. If the provisions of this paragraph cannot be met, welding and/or cutting **may not** take place. In fact, as a company policy, if welding cannot be conducted safely, it may not be conducted.

Fire watchers are required in all locations where other than a minor fire might develop and any of the below conditions exist:

- a. Appreciable amounts of combustible materials closer than 35 feet to point of operation.
- b. Appreciable combustibles are 35 feet or more away but are easily ignited by sparks.
- c. Wall or floor openings within a 35-foot radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
- d. Combustible materials are adjacent to the opposite side of metal partitions, ceilings, or roofs that are likely to be ignited by conduction or radiation.

The fire watch must be maintained at least one-half hour after welding or cutting operations have ceased to detect, and extinguish, possible smoldering fires.

When performing operations capable of producing heat at chemical plants, refineries, or other facilities which have a higher degree of hazard than normal work sites, a hot work permit is generally required. Included in these types of operations are burning, cutting, heating, and welding.

Located with our Hot Work Permit are fire safety instructions that must be read and understood by the persons identified on the permit.

Welding, cutting, and heating of metals of toxic significance (lead, zinc, cadmium, mercury, beryllium, or exotic metals or paints) in enclosed spaces will require either general mechanical ventilation of sufficient capacity and so arranged as to produce the number of air changes necessary to maintain welding fumes and smoke within safe limits **or** local exhaust ventilation consisting of freely movable hoods intended to be placed by the welder or burner as close as practicable to the work. This system will be of sufficient capacity and so arranged as to remove fumes and smoke at the source and keep the concentration of them in the breathing zone within safe limits.

This would include inert-gas metal-arc welding performed on stainless steel to protect against dangerous concentrations of nitrogen dioxide.

When performing welding operations on stainless steel & there is exposure to airborne chromium (VI) above its action level of 2.5 micrograms per cubic meter of air ( $2.5 \mu\text{g}/\text{m}^3$ ) calculated as an 8-hour time-weighted average (TWA), the provisions of 29 CFR 1910.1026 must be adhered to. The PEL is  $5 \mu\text{g}/\text{m}^3$ . If air monitoring, as described in 29 CFR 1910.1026, is below  $.5 \mu\text{g}/\text{m}^3$ , the provisions of this standard do not apply.

## **Walking and Working Surfaces**

### **29 CFR 1910.22 General Requirements**

#### **Access and Egress**

First and foremost, TINC will provide, and ensure each employee uses, a safe means of access and egress to and from all work areas.

#### **Surface Conditions**

TINC will ensure that all our employees have access walking and working surfaces, including passageways, storerooms, and service rooms, that are kept in a clean, orderly, and sanitary condition.

The floor of each workroom will be maintained in a clean &, to the extent feasible, in a dry condition. When wet processes are used, drainage must be maintained &, to the extent feasible, dry standing places, such as false floors, platforms, & mats must be provided.

All walking-working surfaces must also be maintained free of hazards such as sharp or protruding objects, loose boards, corrosion, leaks, spills, snow, and ice.

We will ensure that all walking and working surface do not have materials or equipment on them in excess of the maximum intended load for that surface. When storing materials, the weight of any equipment on, or that might be on, that surface must also be considered in addition to the materials being stored.

#### **Inspection, Maintenance, and Repair**

We must ensure that all walking and working surfaces are inspected, regularly and as necessary, and maintained in a safe condition. If a hazardous condition on walking or working surfaces is found, it must be corrected or repaired before an employee uses that surface again.

If the correction or repair cannot be made immediately, the hazard must be guarded to prevent employees from using the surface until the hazard is corrected or repaired.

If any correction or repair involves the structural integrity of a walking or working surface, a qualified person must perform or supervise the correction or repair.

#### **Support Structures:**

Employees, materials, and equipment will not be supported on any portion of a pole structure, platform, ladder, walkway, or other elevated structure or aerial device unless the support structure is first inspected by a competent person and it is determined to be adequately strong, in good working condition, and properly secured in place.

#### **Protection for Floor Openings:**

Every stairway floor opening will be guarded by a standard railing. The railing will be provided on all exposed sides (except at entrance to stairway). For infrequently used stairways where traffic across the opening prevents the use of fixed standard railing (as when located in aisle spaces, etc.), the guard will consist of a hinged floor opening cover of standard strength and construction and removable standard railings on all exposed sides (except at entrance to stairway).

Every ladder way floor opening, or platform will be guarded by a standard railing with standard toeboard on all exposed sides (except at entrance to opening), with the passage through the railing either provided with a swinging gate or so offset that a person cannot walk directly into the opening.

Every hatchway and chute floor opening will be guarded by one of the following:

- a. Hinged floor opening cover of standard strength and construction equipped with standard railings or permanently attached thereto so as to leave only one exposed side. When the opening is not in use, the cover will be closed, or the exposed side will be guarded at both top and intermediate positions by removable standard railings.
- b. A removable railing with toeboard on not more than two sides of the opening and fixed standard railings with toeboards on all other exposed sides. The removable railings will be kept in place when the opening is not in use.

Where operating conditions necessitate the feeding of material into any hatchway or chute opening, protection will be provided to prevent a person from falling through the opening.

Every pit and trapdoor floor opening, infrequently used, will be guarded by a floor opening cover of standard strength and construction. While the cover is not in place, the pit or trap opening will be constantly attended by someone or will be protected on all exposed sides by removable standard railings.

Every manhole floor opening will be guarded by a standard manhole cover which need not be hinged in place. While the cover is not in place, the manhole opening will be constantly attended by someone or will be protected by removable standard railings.

If performing work on another employer's property, we will not modify fall protection for fixed stairways, ladder openings, hatchway openings, manholes, skylights, ramps, and platforms. We will request direct permission from the property owner if we need to make any changes.

Every temporary floor opening will have standard railings or will be constantly attended by someone.

Every floor hole into which persons can accidentally walk will be guarded by either:

- a. A standard railing with standard toeboard on all exposed sides, or
- b. A floor hole cover of standard strength and construction. While the cover is not in place, the floor hole will be constantly attended by someone or will be protected by a removable standard railing.

Every floor hole into which persons cannot accidentally walk (on account of fixed machinery, equipment, or walls) will be protected by a cover that leaves no openings more than 1 inch wide. The cover will be securely held in place to prevent tools or materials from falling through.

### **Protection for Wall Openings and Holes:**

Every wall opening from which there is a drop of more than 4 feet will be guarded by one of the following:

- a. Rail, roller, picket fence, half door, or equivalent barrier. Where there is exposure below to falling materials, a removable toe board or the equivalent will also be provided. When the opening is not in use for handling materials, the guard will be kept in position regardless of a door on the opening. In addition, a grab handle will be provided on each side of the opening with its center approximately 4 feet above floor level and of standard strength and mounting.
- b. Extension platform onto which materials can be hoisted for handling, and which will have side rails or equivalent guards of standard specifications.

Every temporary wall opening will have adequate guards, but these need not be of standard construction.

Where there is a hazard of materials falling through a wall hole, and the lower edge of the near side of the hole is less than 4 inches above the floor, and the far side of the hole more than 5 feet above the next lower level, the hole will be protected by a standard toeboard, or an enclosing screen either of solid construction.

### **Protection of Open-Sided Floors, Platforms, and Runways:**

Every open-sided floor or platform 4 feet or more above adjacent floor or ground level will be guarded by a standard railing on all open sides except where there is entrance to a ramp, stairway, or fixed ladder. The railing will be provided with a toeboard wherever, beneath the open sides,

- a. Persons can pass,
- b. There is moving machinery, or
- c. There is equipment with which falling materials could create a hazard.

**Note:** Guardrails and toeboards may be omitted on distribution frame mezzanine platforms for telecommunication operations to permit access to equipment. This exemption applies only on the side or sides of the platform facing the frames and only on those portions of the platform adjacent to equipped frames.

Every runway will be guarded by a standard railing on all open sides 4 feet or more above floor or ground level. Wherever tools, machine parts, or materials are likely to be used on the runway, a toeboard will also be provided on each exposed side.

Runways used exclusively for special purposes (such as oiling, shafting, or filling tank cars) may have the railing on one side omitted where operating conditions necessitate such omission, providing the falling hazard is minimized by using a runway of not less than 18 inches wide. Where persons entering upon runways become thereby exposed to machinery, electrical equipment, or other danger not a falling hazard, additional guarding that is specified may be essential for protection.

Regardless of height, open-sided floors, walkways, platforms, or runways above or adjacent to dangerous equipment, pickling or galvanizing tanks, degreasing units, and similar hazards will be guarded with a standard railing and toe board.

If an employee's work requires him or her to work at a height of 4 feet or more above a lower level and standard guardrails are not available, fall protection will be provided by a safety harness and lanyard. Particular attention will be paid to the anchorage point to ensure that it is capable of the stresses that may be placed upon it.

**TINC**  
**Section III**  
**Specific Compliance Programs**

## Bloodborne Pathogens & Other Infectious Material

### Exposure Control Plan

#### 29 CFR 1910.1030 - Bloodborne Pathogens

The primary job assignment of our designated first aid providers is not the rendering of first aid or other medical assistance. Any first aid rendered by them is rendered only as a collateral duty, responding solely to injuries resulting from workplace incidents within our facility.

Recordkeeping: all work-related injuries from needle-sticks and cuts, lacerations, punctures and scratches from sharp objects contaminated with another person's blood or other potentially infectious materials (OPIM) are to be recorded on the OSHA 300 as an injury.

**Note:** Our first aid kits do not contain sharps or needles. However, a contaminated sharp, such as a broken pair of glasses, may trigger the above.

- a. To protect the employee's privacy, the employee's name may not be entered on the OSHA 300
- b. If the employee develops a bloodborne disease, the entry must be updated and recorded as an illness.

### Policy Statement

This Exposure Control Plan has been developed to eliminate or minimize the risk of exposure to bloodborne pathogens and other potentially infectious materials. This plan presents methods and procedures to eliminate and/or minimize the hazards associated with occupational exposure to bloodborne pathogens or other infectious materials.

As a matter of policy, universal precautions will be used.

Additional components of this plan include exposure determinations by job classification, standard operating procedures to eliminate or reduce the likelihood of disease transmission, the methods of disease transmission, definitions of terms, post exposure procedures and follow-up, training documentation, and recordkeeping.

Compliance with this plan not only fulfills the requirements of the Occupational Safety and Health Administration, but more importantly it fulfills our desire to maintain a safe working environment and safeguard the health of our employees.

All affected employees should feel free to review this plan at any time and are encouraged to consult with Matt Melander, our Exposure Control Plan Administrator, to resolve any issues affecting its implementation. Our Plan is to be made available to the Assistant Secretary of Labor for Occupational Safety and Health or a designated representative.

### Definitions

All employees should know the "language" of this plan. Because some of the words and/or terms are not used in everyday life, each person must be aware of the definitions so that we are all "on the same page."

Below are OSHA definitions:

**Assistant Secretary** means the Assistant Secretary of Labor for Occupational Safety and Health, or designated representative.

**Blood** means human blood, human blood components, and products made from human blood.

**Bloodborne Pathogens** means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

**Clinical Laboratory** means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

**Contaminated** means the presence, or the reasonably anticipated presence, of blood or other potentially infectious materials on an item or surface.

**Contaminated Laundry** means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

**Contaminated Sharps** means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

**Decontamination** means the use of a physical or chemical procedure to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

**Director** means the Director of the National Institute for Occupational Safety & Health, U.S. Department of Health & Human Services, or designated representative.

**Engineering Controls** means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the work area.

**Exposure Incident** means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

**Hand-Washing Facilities** means a facility providing an adequate supply of running potable water, soap, and single use towels or hot air-drying machines.

**Licensed Healthcare Professional** means a person whose legally permitted scope of practice allows him or her to independently perform the activities required by 29 CFR 1910.1030(f), Hepatitis B Vaccination & Post-exposure Evaluation and Follow-up.

**HBV** means hepatitis B virus.

**HIV** means human immunodeficiency virus.

**Needleless Systems** means a device that does not use needles for:

- a. The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established,
- b. The administration of medication or fluids, or
- c. Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

**Occupational Exposure** means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

**Other Potentially Infectious Materials:**

- a. The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, anybody fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids;
- b. Any unfixed tissue or organ (other than intact skin) from a human (living or dead);
- c. HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions, and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

**Parenteral** means piercing mucous membranes or the skin barrier through such events as needle-sticks, human bites, cuts, and abrasions.

**Personal Protective Equipment** means specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

**Production Facility** means a facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

**Regulated Waste** means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

**Research Laboratory** means a laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

**Sharps with Engineered Sharps Injury Protections** means a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

**Source Individual** means any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinic patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

**Sterilize** means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

**Universal Precautions** means an approach to infection control. According to the concept of Universal Precautions, all human blood & certain human body fluids are treated as if known to be infectious for HIV, HBV, & other bloodborne pathogens.

**Work Practice Controls** means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

## **Exposure Control Plan**

This Exposure Control Plan is provided for all personnel who, as a result of the performance of their duties, would have reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials.

This plan will be reviewed and updated annually and whenever necessary as new or modified tasks and procedures are introduced which affect occupational exposure to bloodborne pathogens or other potentially infectious materials. The review and update of this plan will:

- a. Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens.
- b. Annually document consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

First aid providers are employees responsible for direct trauma victim care, who are potentially exposed to injuries for contaminated sharps, will be asked for input on the identification, evaluation, and selection of effective engineering and work practice controls.

This Exposure Control Plan, with a copy of 29 CFR 1910.1030 – Bloodborne Pathogens, will be made accessible to all employees as well as the Assistant Secretary and the Director (see definitions) who may examine and copy this plan.

## **Exposure Determination**

Three (3) lists will be prepared and they will be maintained at the end of this exposure control plan for bloodborne pathogens & other infectious material, located [here](#).

- List I: A list of all job classifications in which all employees have occupational exposure.
- List II: A list of job classifications in which some employees have occupational exposure.
- List III: A list of all tasks and procedures, or groups of closely related tasks and procedures, in which occupation exposure occurs and are performed by employees in job classifications noted in List II.

**Note:** The above exposure determinations are to be made without regard to the use of personal protective equipment.

## **Methods of Compliance**

Universal precautions will be used. TINC will treat all trauma victims' blood, bodily fluids, & other potentially infectious materials as if they are known to be infectious. Unfortunately, there is no immediate, practical way to determine if HIV, HBV, & other bloodborne pathogens are present so, to be safe, we will assume they are.

Traditionally, isolation of infectious materials has been diagnosis-driven. This meant that if a person were diagnosed to have HIV or HBV infection, for example, then isolation precautions would be taken. Because the infection status of each trauma victim cannot be immediately known, it makes sense to treat all trauma victims and their body fluids as if they were infected.

The precautions to take depend on the procedures being performed. For example, if one's hands will be in contact with body substances, disposable gloves will be worn. If there is risk of one's eyes being splashed with body fluids, eye protection will be worn. An impermeable barrier must be placed between yourself and the potentially infectious bodily fluids. Overkill is not necessary. Cleaning up a minor spill on a counter top does not require a mask, eye protection, and plastic apron. It does, however, require disposable gloves.

All employees will strictly adhere to the below engineering and work practice controls to eliminate or reduce the possibility of occupational exposure to bloodborne pathogens or other potentially infectious materials. Specific controls and procedures noted below will be used to eliminate or minimize employee exposure.

### **Handwashing Equipment and Procedures:**

Handwashing facilities are provided which are readily accessible to all employees.

Employees will wash their hands & any other skin area exposed to blood or other potentially infectious materials with soap & water immediately or as soon as feasible:

- a. After removal of gloves or other personal protective equipment.
- b. Following contact with blood or other potentially infectious materials.

Particular attention will be given to fingernails and between fingers and rings under which infectious material may lodge. Furthermore, one should be aware that rings and jewelry are a good hiding place for bloodborne pathogens and other potentially infectious materials.

Examples of situations where handwashing is appropriate:

- a. Before and after examining any trauma victim.
- b. After handling any soiled waste or other materials.
- c. After handling any chemicals or used equipment.

If for some reason handwashing facilities are not functioning, appropriate antiseptic hand cleaner and clean cloth/paper towels (antiseptic towelettes) will be provided and used. If antiseptic hand cleaner and clean cloth/paper towels are used, hands will be washed with soap and water as soon as feasible.

### **Eating, Drinking, Smoking:**

There will be no eating, drinking, smoking, applying cosmetics or lip balm, or handling contact lenses in areas where there is a likelihood of occupational exposure to bloodborne pathogens or other potentially infectious materials.

Furthermore, food & drink will not be kept in refrigerators, freezers, shelves, cabinets, on countertops, or benches where blood or other potentially infectious materials are present.

### **Contaminated Needles & Other Contaminated Sharps:**

Contaminated needles will not be sheared or broken.

Furthermore, all contaminated needles and other contaminated sharps will not be bent, recapped, or removed unless:

- a. It can be demonstrated that no alternative is feasible or that it is required by a specific medical procedure.
- b. Recapping or needle removal may be accomplished through the use of a mechanical device or a one-handed method.

Contaminated **reusable** sharps will be placed in appropriate containers immediately or as soon as possible after use until properly reprocessed. These containers will:

- a. Be puncture resistant.
- b. Have warning labels affixed to containers potentially infectious material and contain the following legend:



**Note:** The above label will be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

Labels will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

Red bags or red containers may be substituted for labels.

- c. Be leak proof on the sides and bottom.

**Reusable** sharps that are contaminated with blood or other potentially infectious materials will not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.

Contaminated **non-reusable** sharps will be discarded immediately or as soon as feasible and placed in containers that:

- a. Are closable
- b. Are puncture resistant
- c. Are leak proof on sides and bottom
- d. Have warning labels affixed that contain the following legend:



**Note:** The above label will be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

Labels will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

Red bags or red containers may be substituted for labels.

Contaminated **non-reusable** sharps will not be stored or processed in such a manner that requires employees to reach by hand into the containers where these sharps have been placed.

During use, containers for contaminated sharps must be:

- a. Easily accessible to our employees.
- b. Located as close as feasible to the immediate area where sharps are used or can be reasonably anticipated to be found.
- c. Maintained upright throughout use.
- d. Replaced routinely and not be allowed to overfill.

If leakage is possible when removing a container of contaminated sharps, it will be placed in a second container with the following container requirements:

- a. It will be closable,
- b. It will be constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping, and
- c. Colored coded red or labeled as noted above.

Reusable containers will not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous (introduced through the skin such as a cut) injury.

#### **Other Regulated Waste - Containment:**

The provisions that apply to contaminated sharps, above, apply to other regulated waste.

#### **Disposal of Contaminated Sharps & Other Regulated Waste:**

The actual disposal of all regulated waste will be in compliance with applicable state laws.

#### **Specimens of Potentially Infectious Materials:**

Specimens of blood & potentially infectious materials will be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

#### **Splashing, Spraying of Potentially Infectious Materials:**

All procedures involving blood or other potentially infectious materials will be performed in such a manner as to minimize splashing, spraying, spattering, and the generation of droplets of these substances.

#### **Mouth Pipetting:**

Mouth pipetting & mouth suction of blood or other potentially infectious materials is prohibited.

### **Exposure Control Plan Administrator**

Matt Melander, our designated Exposure Control Plan Administrator, will be knowledgeable in all aspects of this Plan as it relates to our operations and be available to answer questions raised by our first aid providers. Matt Melander may call upon professionals in the Medical Arts to field questions that are of technical nature outside of the area of expertise.

Matt Melander will:

- a. Ensure this Plan is kept current.
- b. Ensure training is provided as required.
- c. Maintain all records associated with this plan.

## **Designated First Aid Provider**

Before one may be designated as a first aid provider, he/she must have a valid certificate in first aid training from the U.S. Bureau of Mines, the Red Cross, or equivalent training that can be verified by documentary evidence. No person is to administer any medical assistance for which they are not appropriately trained. It is noted that the rendering of first aid is not the primary job of our designated first aid providers.

## **Personal Protective Equipment (PPE)**

In spite of work practice and engineering controls, there is a requirement for appropriate personal protective equipment to provide an impermeable barrier between potentially infectious materials and the employees work clothes, street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Employees will use appropriate personal protective equipment when there is a possibility of occupational exposure to bloodborne pathogens or other potential infectious materials.

Personal protective equipment will be provided in appropriate sizes and at no cost to the employees. Further, maintenance and replacement of personal protective equipment will be provided at no cost to the employee.

Personal protective equipment will be discarded immediately if its ability to function as a barrier is compromised.

Most importantly, employees must understand that personal protective equipment is useless unless it provides an impermeable barrier between bloodborne pathogens and other potentially infectious materials and the employee's clothes, skin, eyes, mouth, or other mucous membranes.

Personal Protective Equipment is considered appropriate if it prevents potentially infectious materials from reaching work/street clothing or body surface when used under normal conditions.

### **Disposable Gloves:**

Disposable, single use gloves, such as surgical or examination gloves will be worn when it can be reasonably anticipated that the employee may have hand contact with blood or other potentially infectious materials and when handling or touching contaminated items or surfaces. Disposable gloves will always be used when there is a possibility of contact with bloodborne pathogens or other potentially infectious materials.

Disposable gloves will never be washed, decontaminated, or reused.

Disposable gloves will be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or their ability to function as a barrier is compromised.

Should any employee be allergic to the normal gloves provided, an appropriate alternative (such as hypoallergenic and/or powderless gloves) will be provided in the proper size at no cost to the employee.

### **Utility Gloves:**

Utility gloves may be used for general cleanup (not for any trauma victim procedure) when there is anticipated exposure to bloodborne pathogens or other potentially infectious materials. Utility gloves may be decontaminated for re-use if the integrity of the gloves is not compromised. They will be discarded if they are cracked, peeling, torn, punctured, or exhibit signs of deterioration or when their ability to function as a barrier is compromised.

### **Eye and Respiratory Protection:**

Eye (goggles, glasses, face shield, etc.) and respiratory (mask, etc.) protection will be used when it can reasonably be expected that bloodborne pathogens or other potentially infectious materials may splash or spray in or around the eyes, nose, mouth, and general head area of the employee.

### **Protective Body Clothing:**

Protective body clothing such as gowns, aprons, lab coats, etc. will be worn as determined by the professional judgment of the employee in relation to task. The protective body clothing will certainly be worn where there can reasonably be expected exposure to bloodborne pathogens or other potentially infectious materials to the body area.

### **Laundry:**

Personal protective equipment will be cleaned, laundered, and disposed of at no cost to the employee.

**Note:** In rare and extraordinary circumstances, an employee, in her/his professional judgment, may decline to temporarily and briefly wear personal protective equipment if he/she deems that the equipment would prevent the delivery of health care or would have increased the hazard of occupational exposure to the employee or his/her co-workers. Should this event occur, it will be documented, investigated, and procedures will be developed to prevent a reoccurrence.

## **Housekeeping**

Housekeeping is an ongoing, never ending procedure which not only enhances our work environment but also eliminates health risk to our personnel. In the area of bloodborne pathogens and other hazardous materials, to ensure proper cleaning, decontamination, sterilization, and disinfecting of surfaces within our work area, cleaning will be accomplished only by employees who have received training in universal precautions and the provisions of this plan. The documented Housekeeping Schedule & Checklist is found at the end of this exposure control plan for bloodborne pathogens & other infectious material. This Schedule will be adhered to following an incident that results in the potential exposure to bloodborne pathogens or other potentially infectious materials.

Broken, potentially infected glassware should be picked up and disposed of using mechanical means such as a brush and dustpan or forceps. All sharps will be stored in a manner that allows easy access and safe handling. Infectious waste will be placed in containers that are color coded red. These containers will be decontaminated as soon as practical.

Subsequent to rendering any procedures, employees will ensure that all surfaces on which blood, body fluids, bloodborne pathogens, or other infectious materials may be present are cleaned with an appropriate disinfectant.

## **Hepatitis B Epidemiology**

Hepatitis B (serum hepatitis) routes of infection include parenteral, oral, or direct contact. The virus can also spread by contact with the respiratory tract. Its sources include contaminated needles and surgical instruments as well as contaminated blood products. Hepatitis B virus has also been found in urine. Further, the hepatitis B virus can live for up to seven (7) days on a dry surface and can be easily be transmitted by a single needle stick. Its incubation period is quite lengthy generally between 45 and 180 days. It affects all age groups. Recovery from hepatitis B does provide immunity. Generally, one can expect a complete recovery from viral hepatitis; however, it is potentially fatal depending on many factors including the virulence (aggressiveness) of the virus, prior hepatic damage, and natural barriers to damage and disease of the liver. It is possible for viral hepatitis to lead to fulminating viral hepatitis and sub-acute fatal viral hepatitis both of which are fatal. Onset symptoms may include headache, elevated temperature, chills, nausea, dyspepsia, anorexia, general malaise, and tenderness over the liver. These types of symptoms will last about one (1) week, and then subside, and jaundice will occur. Jaundice is caused by damaged liver cells. The convalescent stage begins with the disappearance of the jaundice and may last several months. Recovery is expected in six (6) months.

### **Risk of Exposure**

Per the Department of Human Services of the Center for Disease Control, below is the risk of infection after occupational exposure:

#### **HBV:**

First aid providers who have received hepatitis B vaccine and have developed immunity to the virus are at virtually no risk for infection. For an unvaccinated person, the risk from a single needle-stick or cut exposure to HBV-infected blood ranges from 6-30% and depends on the hepatitis B e antigen (HBeAg) status of the source individual. In individuals who are both hepatitis B surface antigen (HBsAG) positive and HBeAg positive have more virus in their blood and are more likely to transmit HBV.

#### **HCV:**

Based on limited studies, the risk for infection after a needle-stick or cut exposure to HCV-infected blood is approximately 1.8%. The risk following a blood splash is unknown, but is believed to be very small; however, HCV infection from such an exposure has been reported.

#### **HIV:**

The average risk of HIV infection after a needle stick or cut exposure to HIV-infected blood is 0.3% (i.e., three-tenths of one percent, or about 1 in 300). Stated another way, 99.7% of needle-stick/cut exposures do not lead to infection.

The risk after exposure of the eye, nose, or mouth to HIV-infected blood is estimated to be, on average, 0.1% (1 in 1,000).

The risk after exposure of the skin to HIV-infected blood is estimated to be less than 0.1%. A small amount of blood on intact skin probably poses no risk at all. There have been no documented cases of HIV transmission due to an exposure involving a small amount of blood on intact skin (a few drops of blood on skin for a short period of time). The risk may be higher if the skin is damaged (for example, by a recent cut) or the contact involves a large area of skin or is prolonged (for example, being covered in blood for hours). All employees with occupational exposure are encouraged to accept the hepatitis B vaccination.

## **Hepatitis B Vaccination**

The hepatitis B vaccination series will be provided, at no cost, to all unvaccinated first aid providers as soon as possible (within 24 hours of initial exposure). All exposed first aid provider employees are encouraged to take this vaccination series unless they have previously received the complete hepatitis B vaccination series; antibody testing has revealed that the employee is immune; or the vaccine is contraindicated (not recommended) for medical reasons. Post-exposure evaluation, prophylaxis (prevention of or protection from disease), and follow-up will be provided at no cost to the employee.

The Hepatitis B vaccination will be performed under the supervision of a licensed physician or other licensed healthcare professional.

All laboratory tests will be conducted by an accredited laboratory at no cost to the employee.

Should routine booster dose(s) of hepatitis B vaccine (as recommended by the U.S. Public Health Service at a future date) be required, they will be provided at no cost as long as the employee remains a first aid provider.

An employee may decline the Hepatitis B vaccination and this declination will not reflect unfavorably upon him/her; however, this declination must be in writing. See the Hepatitis B Declination Form.

It is important to note that if a first aid provider initially declines the hepatitis B vaccination series, he/she may decide at a later date to accept the vaccination series and it will be provided at no cost assuming he/she is still occupationally exposed to bloodborne pathogens or other potentially infectious materials.

## **Sharps Injury Log**

A Sharps injury log will be maintained for the recording of percutaneous injuries from contaminated sharps.

The information on the log will be recorded and maintained in such manner as to protect the confidentiality of the injured employee.

The sharps injury log will contain:

- a. The type and brand of device involved in the incident.
- b. The department or work area where the exposure incident occurred.
- c. An explanation of how the incident occurred.

The sharps injury log will be maintained for the period of five years.

## **First Aid Provider Input**

As a matter of policy, all first aid providers who are responsible for first aid delivery as an additional job are encouraged to suggest methods to improve our engineering and workplace controls. This input may be made verbally to Matt Melander at any time. Additionally, suggestions will be solicited during the annual refresher training.

## **Plan Review**

This plan will be reviewed, and if necessary, updated annually to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. As new medical devices are developed which reduce employee exposure, they will be introduced into our practice. A review of the sharp's injury log will help identify problem areas and/or ineffective devices which may need replacement.

## **Post-Exposure Evaluation and Follow-Up**

The information that has preceded *Post-Exposure Evaluation and Follow-up* has dealt with the methods to restrict occupational exposure to bloodborne pathogens and other infectious materials. Post-exposure evaluation and follow-up deals with the steps to take immediately following a potential exposure incident and the steps that will be taken over time to protect our employees from further health risk.

All incidents involving exposure to blood or other potentially infectious materials will be reported to Matt Melander, in writing, before the end of the shift in which the incident occurred using the Exposure Incident Report, located at the end of this exposure control plan for bloodborne pathogens & other infectious material. This Report will be prepared regardless of whether or not there has been an "Exposure Incident" as defined in this Plan and in 29 CFR 1910.1030. A separate Exposure Incident Report will be completed for each employee who was occupationally exposed. Information in this Report will include:

- a. The date and time the incident occurred.
- b. A brief description of the events leading up to the exposure (what happened).
- c. The name of the individual exposed.
- d. The route of exposure.
- e. "Source individual" and "exposed individual" information, including the acceptance or rejection of hepatitis B vaccination series.
- f. A determination of whether or not an actual "exposure incident" occurred. Refer to Definitions in this Plan or 29 CFR 1910.1030.

Matt Melander or his authorized representative will review the Exposure Incident Report and determine if methods or procedures may be altered to prevent a reoccurrence of the incident.

Further, an occupational bloodborne pathogens exposure incident which results in the recommendation for hepatitis B vaccination would be recorded on OSHA Form 300 as an injury. See Recordkeeping.

All unvaccinated employees who have assisted in any situation involving blood will be afforded the opportunity to receive the hepatitis B vaccination series as soon as possible but not later than twenty-four (24) hours after the situation.

A confidential medical evaluation and follow-up will be provided immediately, at no cost, to the employee. The healthcare professional evaluating an employee after an exposure incident will be provided a copy of 29 CFR 1910.1030.

Further, the healthcare professional will be provided a description of the exposed employee's duties as they relate to the exposure incident; documentation of the route(s) of exposure; the circumstances under which the exposure occurred; the results of the source individual's blood testing, if available; and all medical records relevant to the appropriate treatment of the employee including vaccination status which is maintained by our office. See Recordkeeping.

The confidential medical evaluation and follow-up will include:

- a. Documentation of the route(s) of exposure.
- b. The circumstances under which the exposure incident occurred.
- c. The identification and documentation of the source individual, unless it can be established that the identification is not feasible or prohibited by state or local law.
- d. The exposed employee's blood will be collected as soon as feasible and tested after consent is obtained.

**Note:** If the employee consents to baseline blood collection but does not consent at that time for HIV serologic testing, the sample will be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing will be done as soon as feasible.

- e. The source individual's blood will be tested as soon as feasible to determine HBV and HIV infectivity unless it is already known, in which case this procedure is not necessary.

If consent to test the source individual's blood cannot be obtained the following will occur:

- a. It will be established and documented that legally required consent cannot be obtained.
- b. When the source individual's consent is not required by law, the source individual's blood will be tested, and the results documented.

The results of the source individual's testing will be made available to the exposed employee and the employee will be informed of applicable laws and the identity and infectious status of the source individual.

The employee will be provided post-exposure prophylaxis, when medically indicated, and counseling.

The employee will be provided with a copy of the healthcare professional's written opinion within 15 days of the completion of the evaluation. The written opinion will be limited to:

- a. Whether Hepatitis B vaccination is indicated and if the employee has received such vaccination.
- b. An indication that the employee has been informed of the results of the evaluation.
- c. An indication that the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

All other findings or diagnoses will remain confidential and will not be included in the written report.

## **Recordkeeping**

Complete and accurate medical records will be maintained for each employee with occupational exposure. These records will remain confidential and will not be disclosed or reported to any person within or outside the workplace without the employee's express written consent, except as required by law.

Medical records will be maintained for at least the duration of employment plus 30 years.

Included in the employee's medical record will be:

- a. The employee's name
- b. A copy of the employee's hepatitis B vaccination status including the date of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination.
  - 1. If the employee has declined to receive the hepatitis B vaccination series when appropriate, this declination will be included in the person's medical records.
- c. A copy of all results of examinations, medical testing, and follow-up procedures as required following an exposure incident.
- d. The employer's copy of the healthcare professional's written opinion following an exposure incident.
- e. A copy of all information provided to the healthcare professional following an exposure incident.

All work-related injuries from needle-sticks and cuts, lacerations, punctures and scratches from sharp objects contaminated with another person's blood or other potentially infectious materials are to be recorded on the OSHA 300 as an injury.

- a. To protect the employee's privacy, the employee's name may not be entered on the OSHA 300.
- b. If the employee develops a bloodborne disease, the entry must be updated and recorded as an illness.

## Training

All of our first aid providers must have current certificates of first aid and CPR training on file. These records will be maintained by Matt Melander.

Initial training, training at the introduction of a new or altered task affecting exposure to bloodborne pathogens or other potentially hazardous materials, and annual training will be provided by a person knowledgeable in the subject matter contained in this Plan.

Training will be interactive between the instructor and employee. An opportunity to ask questions will be provided. Further, this Plan as well as 29 CFR 1910.1030, *Bloodborne Pathogens*, will be readily available for review.

All training will be documented using the forms found in our Training Information and Documentation Program. Training documentation will be maintained for a period of three (3) years from the date on which the training occurred.

Training will include, but not be limited to, the following topics and materials:

- a. A complete review of our Exposure Control Plan and its accessibility.
- b. An accessible copy of 29 CFR 1910.1030 and an explanation of its contents.
- c. A general explanation of the epidemiology and symptoms of bloodborne diseases.
- d. An explanation of the modes of transmission of bloodborne pathogens.
- e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
- f. An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
- g. Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment.
- h. An explanation of the basis for selections of personal protective equipment.
- i. Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge.
- j. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials.
- k. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.
- l. Information on the post-exposure evaluation and follow-up that is provided after an exposure incident.
- m. An explanation of the color coding required by 29 CFR 1910.1030(g)(1).
- n. A request for input from employees in the identification, evaluation, and selection of effective engineering and work practice controls.

## **Waste Management**

Waste management, if necessary, will comply with State EPA standards regarding handling, storage, and shipping of medical wastes.

### **Summary**

The whole thrust of the exposure control plan for bloodborne pathogens & other infectious material Plan is to provide an awareness of the dangers of bloodborne pathogens, provide a means of reducing the possibility of occupational exposure, and, should occupational exposure occur, provide a means of reducing health risk.

**TINC**  
**TINC HQ**

**Exposure Determination Form - List I**

All job classifications in which all employees have occupational exposure.

1. First Aid Providers
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**Note:** The above exposure determinations are to be made without regard to the use of personal protective equipment.

**Note:** The primary job assignment of our designated first aid providers is not the rendering of first aid or other medical assistance. Any first aid rendered by them is rendered only as a collateral duty, responding solely to injuries resulting from workplace incidents within our facility.

**TINC**  
**TINC HQ**

**Exposure Determination Form - List II**

Job classifications in which some employees have occupational exposure:

1. None
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**Note:** The above exposure determinations are to be made without regard to the use of personal protective equipment.

**Note:** The primary job assignment of our designated first aid providers is not the rendering of first aid or other medical assistance. Any first aid rendered by them is rendered only as a collateral duty, responding solely to injuries resulting from workplace incidents within our facility.

# TINC

## TINC HQ

### Exposure Determination Form - List III

All tasks and procedures or groups of closely related tasks and procedures in which occupation exposure occurs and are performed by employees in job classifications noted in List II.

	Job Classification	Tasks
1.	<u>None</u>	<hr/> <hr/> <hr/> <hr/>
2.	<hr/>	<hr/> <hr/> <hr/> <hr/>
3.	<hr/>	<hr/> <hr/> <hr/> <hr/>
4.	<hr/>	<hr/> <hr/> <hr/> <hr/>

**Note:** The above exposure determinations are to be made without regard to the use of personal protective equipment.

**Note:** The primary job assignment of our designated first aid providers is not the rendering of first aid or other medical assistance. Any first aid rendered by them is rendered only as a collateral duty, responding solely to injuries resulting from workplace incidents within our facility.

**TINC**  
**TINC HQ**  
**Housekeeping Schedule & Checklist**

**SCHEDULE**

Following every incident where there is a possibility of the presence of residual bloodborne pathogens or other potentially infectious materials.

**CHECKLIST**

Only personnel who have had training in our Exposure Control will ensure that all surfaces are decontaminated and that cleaning materials are properly disposed of. Areas to consider include, but are not limited to:

	YES	NA
FLOORS	<input type="checkbox"/>	<input type="checkbox"/>
WALLS	<input type="checkbox"/>	<input type="checkbox"/>
EQUIPMENT	<input type="checkbox"/>	<input type="checkbox"/>
PRODUCT	<input type="checkbox"/>	<input type="checkbox"/>
WASTE CONTAINERS	<input type="checkbox"/>	<input type="checkbox"/>
TOOLS	<input type="checkbox"/>	<input type="checkbox"/>

Broken, potentially infected glassware should be picked up and disposed of using mechanical means such as a brush and dust pan or forceps.

All sharps will be stored in a manner that allows easy access and safe handling.

Infectious waste will be placed in containers that are color coded red. These containers will be decontaminated as soon as practical.

Subsequent to rendering any procedures, employees will ensure that all surfaces on which blood, body fluids, bloodborne pathogens, or other infectious materials may be present are cleaned with an appropriate disinfectant.

**TINC**  
**TINC HQ**

**Hepatitis B Declination Form**

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

---

(WITNESS)

---

(EMPLOYEES SIGNATURE)

---

(PRINTED NAME)

---

(DATE)

**TINC**  
**TINC HQ**  
**Sharps Injury Log**

**Note:** A sharps injury log will be maintained for the recording of percutaneous injuries from contaminated sharps.

**The information on the log will be recorded and maintained in such manner as to protect the confidentiality of the injured employee.**

**This sharps injury log will be maintained for the period of five years.**

(Incident Date)

(Employee SSN)

Type and brand of device involved in the incident:

Work area where the exposure incident occurred:

Explanation of how the incident occurred:

Matt Melander  
Safety Program Administrator

**TINC**  
**TINC HQ**

**Annual Exposure Control Plan Review**

This Exposure Control Plan was prepared:

At least annually, this program will be reviewed and, if necessary, updated to reflect innovations in procedures and technological developments that eliminates or reduces exposure to bloodborne pathogens.

As part of the annual review, the below will be considered:

- a. Employee Input
- b. Sharps Injury Log
- c. Exposure Incident Reports
- d. Professional Journals

Date Reviewed:

Signature

Title

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**TINC**  
**TINC HQ**

**Exposure Incident Report**

**ALL INFORMATION ON THIS FORM IS TO REMAIN CONFIDENTIAL**

**THIS FORM WILL BE COMPLETED AS SOON AS FEASIBLE AFTER AN EXPOSURE INCIDENT BUT, UNDER NO CIRCUMSTANCES, AFTER THE SHIFT ON WHICH THE INCIDENT OCCURRED.**

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

NAME OF EMPLOYEE: \_\_\_\_\_

ROUTE OF EXPOSURE: \_\_\_\_\_

SOURCE INDIVIDUAL'S NAME: \_\_\_\_\_

a. Above individual did / did not consent to be tested for HBV or HIV.

b. Testing was done by: \_\_\_\_\_

1. Results: \_\_\_\_\_

EMPLOYEE WAS OFFERED AND ACCEPTED:      **NO   YES**

a. Hepatitis Vaccination Series. [Date(s)]      ☐   ☐   \_\_\_\_\_

1. If "NO", written declination was signed.

b. Post Exposure Evaluation and follow-up.      ☐   ☐

c. Employee consents to baseline blood collection.      ☐   ☐   \_\_\_\_\_  
(Signature)

Description of events leading to this exposure incident:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Corrective Measures to Prevent a Reoccurrence:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Matt Melander

\_\_\_\_\_  
Employee Signature

## Fall Protection

### 29 CFR 1910.140 – Personal Fall Protection Systems

#### **Self-Rescue**

As required by §1910.140(c)(21), special consideration must be given to rescuing an employee promptly should a fall occur. The availability of rescue personnel, ladders, or other rescue equipment will be considered because our employees are not to self-rescue. After a fall, it is likely an employee will be unable to self-rescue due to an injury.

#### **As a matter of policy, under no circumstances will employees of TINC attempt to perform a self-rescue.**

The rationale for this policy is as follows:

- a. Expecting a suspended employee to perform self-rescue presupposes that the employee is:
  1. Of clear mind after the fall, and
  2. In excellent physical condition, and
  3. Has not sustained any injuries from the fall arrest, and
  4. Did not have a medical event that caused the fall in the first place (fainting, for example).
- b. Because employees at TINC are not professional rescue persons, in depth self-rescue training would be required and practice self-rescue exercises performed for each possible combination of fall scenarios.
- c. Specialize self-rescue equipment and training on that equipment would be required.

#### **Prompt Rescue Procedures:**

As a matter of policy, an employee performing work requiring a personal fall arrest system **will not work alone**. He/she will be in sight of another employee using a personal fall arrest system or be monitored by a safety monitor whose sole job will be to ensure there is not a fall event that goes unnoticed.

Prior to performing work requiring a personal fall arrest system, Matt Melander, our Safety Program administrator, or a designated competent person, will:

- a. Assess the possible fall scenarios; and
- b. Take inventory of in-house equipment that is readily available for possible rescue (ladders, forklifts, mobile scaffold, etc.); and
- c. Be prepared to implement a plan of action utilizing our in-house equipment should a fall occur; or
- d. Call an emergency rescue service and give them:
  1. Our exact location.
  2. A quick synopsis of what happened.
  3. The height of the suspended person.
  4. Known or suspected injuries.

## Overview

One of the most serious hazards faced by the employees of TINC is falls from heights. Our Fall Protection Program has been developed to prevent injury from falls of four (4) feet or more from a walking/working surface to a lower level, to prevent objects falling from above and striking persons below, and to prevent employees from falling into holes or onto dangerous machinery or equipment.

Within the context of this program, the term “fall hazard” does not refer to tripping & falling, which is addressed in our general safety & health program, nor does it apply to falling off a ladder or scaffold. Scaffold & ladder safety is addressed within their own topics.

A copy of this Fall Protection **Program** can be found readily accessible to our employees at appropriate facilities. If needed, a copy of a Fall Protection **Plan** will be available in the area of the facility where needed.

Our Fall Protection Program may be reviewed at any time by employees at TINC. Should a question arise concerning this Program, personnel are encouraged to consult with their supervisor, or Matt Melander, our Fall Protection Program Administrator.

At any facility where fall hazards exist, there will be at least one competent person who has the training and ability to identify fall hazards and the authority to ensure that proper fall protection systems are properly implemented.

The following areas of concern are addressed by this Program:

- a. The need to know where fall protection is required.
- b. Selection of fall protection systems which are appropriate for given situations.
- c. Construction and installation of safety systems.
- d. Supervision of employees.
- e. Implementation of safe work procedures.
- f. Training in selection, use, and maintenance of fall protection systems.

### Duties of the Program Administrator

The duties of Matt Melander include:

- a. Training of personnel.
- b. Maintenance of training records.
- c. Random, unannounced facility inspections to assure compliance with both OSHA standards and company safety policies.
- d. Resolution of specific problems that may present themselves regarding a particular situation.
- e. Designating a competent person (by training or experience) at each applicable facility who will ensure:
  1. A copy of our fall protection program/plan is readily accessible to all appropriate employees at the facility.
  2. A written certification record has been prepared documenting that employees who have potential exposure to fall hazards at the facility have received the required training.

3. The fall protection system(s) utilized at the facility are appropriate for the hazard(s) present.
4. That, before any work is initiated, the walking/working surfaces at the facility are capable of supporting both our personnel, materials, and equipment that might be used.

Matt Melander will be familiar with all applicable standards and will keep up-to-date of developments in the field of fall protection.

### **Hazard Assessment**

Fall protection requires a joint effort by all personnel at TINC to identify work situations in which fall hazards exist, determine the most appropriate fall protection system to be utilized, and to ensure that all persons understand the proper methods of utilizing the selected fall protection systems. A hazard assessment, by a competent person, will often provide the information needed to make these determinations.

Care will be taken to assure that load limits are not exceeded on walking/working surfaces and attachment points and hardware is capable of withstanding (with the appropriate safety factor) the potential forces that may be generated during an actual fall incident.

Fall protection hardware and equipment will be NIOSH/ANSI approved and it is assumed that the manufacturer's technical specifications and capabilities are accurate.

### **Definitions**

There are a number of terms and phrases, not common in everyday life, which must be understood to grasp the thrust of our Fall Protection Program. For those employees directly involved with this Program or affected by it, there are specific requirements and procedures which would be meaningless without an understanding of the "language" of our Fall Protection Program.

**Note:** Words used within the definitions which are themselves defined are printed in bold italic.

**Anchorage** means a secure point of attachment for *lifelines, lanyards* or *deceleration devices*.

**Belt Terminal** means an end attachment of a window cleaner's positioning system used for securing the belt or harness to a window cleaner's belt anchor.

**Body Belt** means a strap with means both for securing about the waist and for attaching to other components such as a lanyard used with positioning systems, travel restraint systems, or ladder safety systems.

**Body Harness** means straps that secure about the employee in a manner that will distribute the fall arrest over at least the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a *personal fall arrest system*.

**Buckle** means any device for holding the *body harness* closed around the employee's body.

**Carabiner** means an oval metal ring with a snap link used to fasten a rope to the piton [a spike (attachment) with an eye to which a rope can be secured.]

**CFR** means Code of Federal Regulations.

**Competent Person** means one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees; and who has authorization to take prompt corrective measures to eliminate them.

**Connector** means a device which is used to couple (connect) parts of the **personal fall arrest system** and **positioning device systems** together. It may be an independent component of the system, such as a **carabineer**, or it may be an integral component of part of the system (such as a **buckle** or d-ring sewn into a self-retracting **lanyard**).

**D-Ring** means a connector used:

- a. In a harness as an integral attachment element or fall arrest attachment;
- b. In a lanyard, energy absorber, lifeline, or anchorage connector as an integral connector; or
- c. In a positioning or travel restraint system as an attachment element.

**Dangerous Equipment** means equipment (such as pickling or galvanizing tanks, degreasing units, machinery, electrical equipment, and other units) which, as a result of form or function, may be hazardous to employees who fall onto or into such equipment.

**Deceleration Device** means any mechanism, such as a **rope grab**, rip-stitch **lanyard**, specially-woven **lanyard**, tearing or deforming **lanyards**, automatic self-retracting **lifelines/lanyards**, etc., which serves to dissipate a substantial amount of energy during a fall arrest, or otherwise limit the energy imposed on an employee during fall arrest.

**Deceleration Distance** means the additional vertical distance a falling employee travels from the point at which the **deceleration device** begins to operate before stopping, excluding **lifeline** elongation and **free fall distance**. It is measured as the distance between the location of an employee's **body harness** attachment point at the moment of activation (at the onset of fall arrest forces) of the **deceleration device** during a fall, and the location of that attachment point after the employee comes to a full stop.

**Equivalent** means alternative designs, materials, or methods to protect against a hazard which the employer can demonstrate will provide an equal or greater degree of safety for employees than the methods, materials or designs specified in the standard.

**Failure** means load refusal, breakage, or separation of component parts. Load refusal is the point where the ultimate strength is exceeded.

**Free Fall** means the act of falling before a **personal fall arrest system** begins to apply force to arrest the fall.

**Free Fall Distance** means the vertical displacement of the fall arrest attachment point on the employee's **body harness** between onset of the fall & just before the system begins to apply force to arrest the fall. This distance excludes **deceleration distance**, & **lifeline/lanyard** elongation, but includes any **deceleration device** slide distance of **self-retracting lifeline/lanyard** extension before they operate & fall arrest forces occur.

**Guardrail System** means a barrier erected to prevent employees from falling to **lower levels**.

**Hole** means a gap or void 2 inches (5.1 cm) or more in its least dimension, in a floor, **roof**, or other **walking/working surface**.

**Lanyard** means a flexible line of rope, wire rope, or strap which generally has a **connector** at each end for connecting the **body harness** to a **deceleration device**, **lifeline**, or **anchorage**.

**Lifeline** means a component consisting of a flexible line for connection to an **anchorage** at one end to hang vertically (vertical lifeline), or for connection to **anchorages** at both ends to stretch horizontally (horizontal lifeline), and which serves as a means for connecting other components of **personal fall arrest system** to the **anchorage**.

**Lower-Levels** means those areas or surfaces to which an employee can fall. Such areas or surfaces to include, but are not limited to, ground levels, floors, platforms, ramps, runways, pits, tanks, material, water, equipment, structures, or portions thereof.

**Opening** means a gap or void 30 inches or more high and 18 inches or more wide, in a wall or partition through which employees can fall to a **lower level**.

**Person Fall Arrest System** means a system used to arrest an employee in a fall from a working level. It consists of an **anchorage**, **connectors**, a **body harness**, and may include a **lanyard**, **deceleration device**, **lifeline**, or suitable combination of these. **The use of body belts for fall arrest is prohibited.**

**Personal Fall Protection System** means a system (including all components) an employer uses to provide protection from falling or to safely arrest an employee's fall if one occurs. Examples of personal fall protection systems include personal fall arrest systems, positioning systems, and travel restraint systems.

**Positioning System** (work-positioning system) means a system of equipment and connectors that, when used with a body harness or body belt, allows an employee to be supported on an elevated vertical surface, such as a wall or window sill, and work with both hands free. Positioning systems also are called "positioning system devices" and "work-positioning equipment."

**Qualified Person** means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.

**Rope Grab** means a **deceleration device** which travels on a **lifeline** and automatically, by friction, engages the **lifeline** and locks so as to arrest the fall of an employee. A rope grab usually employs the principle of inertial locking, cam/level locking, or both.

**Safety Factor** means the ratio of the design load & the ultimate strength of the material.

**Self-Retracting Lifeline/Lanyard** means a **deceleration device** containing a drum-wound line which can be slowly extracted from, or retracted onto, the drum under slight tension during normal employee movement, and which, after onset of a fall, automatically locks the drum and arrests the fall.

**Snaphook** means a **connector** comprised of a hook-shaped member with a normally closed keeper of similar arrangement which may be opened to permit the hook to receive an object and, when released, automatically closes to retain the object.

Snaphooks are generally one of two types:

- a. The locking type with a self-closing, self-locking keeper which remains closed and locked until unlocked and pressed open for connection or disconnection;
- b. The non-locking type with a self-closing keeper which remains closed until pressed open for connection or disconnection. The use of a non-locking snaphook as part of personal fall arrest systems and positioning device systems is prohibited.

**Toeboards** means a low protective barrier that will prevent the fall of material and equipment to **lower levels** and provide protection from falls for personnel.

**Travel Restraint** (tether) means line means a rope or wire rope used to transfer forces from a body support to an anchorage or anchorage connector in a travel restraint system.

**Travel Restraint System** means a combination of an anchorage, anchorage connector, lanyard (or other means of connection), and body support that an employer uses to eliminate the possibility of an employee going over the edge of a walking-working surface.

**Window Cleaner's Belt** means a positioning belt that consists of a waist belt, an integral terminal runner or strap, and belt terminals.

**Window Cleaner's Belt Anchor** (window anchor) means specifically designed fall-preventing attachment points permanently affixed to a window frame or to a building part immediately adjacent to the window frame, for direct attachment of the terminal portion of a window cleaner's belt.

**Window Cleaner's Positioning System** means a system which consists of a window cleaner's belt secured to window anchors.

**Unprotected Sides and Edges** means any side or edge (except at entrances to points of access) of a **walking/working surface**, e.g., floor, **roof**, ramp, or runway where there is no wall or **guardrail system** at least 39 inches high.

**Walking/Working Surface** means any surface, whether horizontal or vertical, on which an employee walks or works, including, but not limited to, floors, ramps, bridges, runway; not including ladders, vehicles, or trailers on which employees must be located in order to perform their job duties.

**Work Area** means that portion of a **walking/working surface** where job duties are being performed.

### **Where Fall Protection is Required**

The "key" distance is four (4) feet. All employees must be aware that if there is a possibility of falling four (4) feet or more at least one (1) fall protection system will be implemented. Further, protection from being struck by falling objects from above will be provided.

Below listed are specific situations where fall protection systems will be utilized.

#### **Unprotected Sides and Edges:**

Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge, which is 4 feet or more above a lower level, will be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems.

#### **Hoist Areas:**

Each employee in a hoist area will be protected from falling 4 feet or more to lower levels by guardrail systems or personal fall arrest systems.

If a guardrail system is utilized in a hoist area and portions of the system are removed to facilitate the hoisting operation, and an employee must lean through the access opening or out over the edge of the access opening, that employee must be protected by a fall arrest system.

**Holes:**

Each employee on walking/working surfaces will be protected from falling through holes (including skylights) more than 4 feet above lower levels by personal fall arrest systems, covers, or guardrail systems.

- a. Each employee on a walking/working surface will be protected from tripping in or stepping into or through holes (including skylights) **(regardless of height)** by covers.
- b. Each employee on a walking/working surface will be protected from objects falling through holes **(regardless of height)** by covers.

**Ramps, Runways, and Other Walkways:**

Each employee on ramps, runways, and other walkways will be protected from falling 4 feet or more to lower levels by guardrail systems.

**Dangerous Equipment:**

Each employee less than 4 feet above dangerous equipment will be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.

Each employee 4 feet or more above dangerous equipment will be protected from fall hazards by guardrail systems, personal fall arrest systems, or safety net systems.

**Wall Openings:**

Each employee working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 4 feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface, will be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.

**Walking/Working Surfaces not Otherwise Addressed:**

Each employee on a walking/working surface 4 feet or more above a lower level that is not addressed in the preceding categories will be protected from falling by a guardrail system, a safety net system, or a personal fall arrest system except when:

- a. Working on scaffolds, fall protection requirements are covered by 29 CFR 1926 Subpart L.
- b. Working on certain cranes and derricks, fall protection requirements are covered by 29 CFR 1926 Subpart N.
- c. Performing steel erection work in buildings, fall protection requirements are covered by 29 CFR 1926 Subpart R.
- d. Working on certain types of equipment used in tunneling operations, fall protection requirements are covered by 29 CFR 1926 Subpart S.
- e. Engaged in the construction of electric transmission and distribution lines, equipment fall protection requirements are covered by 29 CFR 1926 Subpart V.
- f. Working on stairways and ladders fall protection requirements are covered by 29 CFR 1926 Subpart X.

**Note:** On multi-employer work sites, employees of all contractors and subcontractors must understand the fall protection hazards that exist and be aware of the various methods of fall protection even if they are NOT directly exposed to fall hazards in their particular work area. For example, a contractor may have a controlled access zone in place and all persons on the job site, regardless of their employer, must understand the importance of remaining outside that CAZ.

## Fall Protection Systems

### Guardrail System:

A guardrail system is a physical barrier erected to prevent employees from falling to lower levels.

Specific guardrail systems criteria are found in 29 CFR 1926.502(b) and we will erect guardrail systems that comply with the cited criteria.

The main advantage of a guardrail system is that it is a “passive” system which, once installed, requires no employee involvement in its function. A guardrail will stop an employee who inadvertently walks into it.

A guardrail system is an acceptable fall protection system in each of the OSHA designated work areas, except one: “Formwork and Reinforcing Steel.”

### Guardrail Systems at Hoisting Areas:

When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section will be placed across the access opening between the guardrail sections when hoisting operations are not taking place.

**Note:** If a portion of the guardrail system is removed at a hoisting area to facilitate the hoisting operations and an employee must lean out over the opening, then that employee must be protected by a personal fall arrest system. In this instance it is important to remember that the personal fall arrest system may not be attached to the guardrail system.

### Guardrail Systems at Holes:

Guardrail systems used at holes will be erected on all unprotected sides of the edges of the hole.

When the hole is to be used for the passage of materials, the hole will not have more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it will be closed over with a cover **or** protected with a guardrail system on all unprotected sides or edges.

**Note:** Guardrails need not be erected around holes while employees are working at the hole, passing materials through the hole, etc. When work is completed around the hole, the hole must be protected by guardrails on all sides of the hole or by covers.

Guardrail systems used around holes which are used as points of access (such as ladder ways) will be provided with a gate or be offset so that a person cannot walk directly into the hole.

### Guardrail Systems on Ramps and Runways:

Guardrail systems used on ramps and runways will be erected along each unprotected side or edge. Ramps, runways, and other walkways on which employees need protection from falling 4 feet or more to a lower level must be protected by a guardrail system and only a guardrail system.

### Personal Fall Arrest System:

A personal fall arrest system is, as the name implies, a means of safely decelerating a falling body before a lower level is hit. The three (3) main components of a personal fall arrest system are the:

- a. Anchorage point
- b. Lanyard
- c. Body harness

**Note:** Body belts will not be used in a personal fall arrest system.

The tie-off attachment point must be at or above the connection point on the harness to prevent additional free fall distance.

As are guardrails, personal fall arrest systems are “passive” and require no employee involvement once they are properly rigged.

For all practical purposes, d-rings and locking type snaphooks will have a minimum tensile strength of 5,000 pounds and lanyards and vertical lifelines will have a minimum breaking strength of 5,000 pounds. Anchorages must be capable of supporting 5,000 per employee.

Anchorages used in personal fall arrest systems must be independent of any anchorage being used to support or suspend platforms.

**Note: Knots in a rope lanyard or lifeline can reduce its strength by as much as 50% and having a lanyard go over or around sharp edges can completely destroy its effectiveness.**

With the exception that harnesses, and components may be used as positioning device systems, personal fall arrest system components may not be used for purposes other than that for which they were designed.

Positioning device system components will be inspected prior to each use for wear, damage, and other deterioration and defective components will be removed from service.

Should a personal fall arrest system actually be used to stop a fall, it will be removed from service and not used again until inspected and determined to be undamaged and suitable for reuse by a competent person.

### **Safety Net System:**

As required by 29 CFR 1910.29(c), specific safety net systems criteria are found in 29 CFR 1926.502(c).

Safety nets will be installed as close as practical under the walking/ working surface on which employees are working and in no case will they be more than 30 feet below such level.

Safety nets will be inspected at least once per week and after an occurrence which could affect the integrity of the system. Defective nets will not be used.

All items that have fallen in a safety net will be removed as soon as possible and at least before the next work shift.

Safety nets will be drop-tested after initial installation and before being used as a fall protection system, whenever relocated, after major repair, and at six-month intervals if left in one place.

**Note: If it is demonstrably unreasonable to perform a drop-test, a designated competent person will prepare a certification in accordance with 29 CFR 1926.502(c)(4)ii.**

### **Warning Line System:**

A warning line system is a barrier erected on a roof to warn employees that they are approaching an unprotected edge and which designates an area in which work may take place without the use of guardrail, body harness, or safety net systems to protect employees in the area.

A warning line system is to be used only work on low-sloped roofs over 50-feet in width with unprotected sides and edges 4-feet or more above lower levels (on a simple rectangular roof, width is the lesser of the two primary overall dimensions. This is also the case with roofs which are sloped toward or away from the roof center). Most importantly, warning line systems must be used in conjunction with either a guardrail system, a safety net system, a personal fall arrest system, or a safety monitoring system.

**Note:** In the above scenario, either a guardrail system, a safety net system, or a personal fall arrest system alone provides adequate fall protection.

Specific warning line systems criteria are found in 29 CFR 1910.29(d) and we will use warning line systems that comply with the cited criteria.

As a general rule, warning line systems will be used in conjunction with a safety monitoring system.

A warning line made of ropes, wires, chains, and supporting stanchions will be flagged at no more than 6-feet intervals with high-visibility material. As the name implies, this line will only “warn” employees that they are approaching an unprotected side or edge. The horizontal resisting force of a warning line is 16 pounds versus 200 pounds for a guardrail system.

No personnel are allowed in the area between a roof edge and a warning line unless they are performing roofing work in that area.

Mechanical equipment on roofs will only be used in areas that are protected by either a warning line system, a guardrail system, or a personal fall arrest system.

The warning line will be erected around all sides of the roof work area not less than 6-feet from the roof edge unless mechanical equipment is being used. In that case, the warning line will be erected not less than 6-feet from the roof edge which parallels the mechanical operation and not less than 10 feet from the roof edge which is perpendicular to the direction of the mechanical operation.

Points of access, material handling areas, storage areas, and hoisting areas will be connected to the work area by an access path formed by two warning lines. When the aforementioned areas are not in use, the warning line will be adjusted to completely seal off the work area so that a person cannot inadvertently enter the area.

### **Positioning System:**

A positioning system consists of a body belt or body harness system rigged to allow an employee to be supported on an elevated vertical surface, such as a wall, and work with both hands free while leaning.

Specific positioning systems criteria are found in 29 CFR 1910.140 and we will use positioning systems that comply with the cited criteria.

Positioning systems must be inspected prior to each use for wear, damage, and other deterioration. Defective components must be removed from service. Components of positioning systems must never be used for purposes other than that for which they were designed -- specifically fall protection and/or positioning on a vertical surface.

### **Covers:**

Covers can prevent an employee from stepping into a hole, tripping over a hole, falling through a hole, or being injured by objects falling through a hole.

**Note:** When work is completed around a hole, the hole must be protected by guardrails on all sides of the hole or by covers.

Specific cover criteria are found in 29 CFR 1910.29(e) and we will use covers that comply with the cited criteria.

Covers must be capable of supporting, without failure, twice the weight of the employees, equipment, and/or materials that may be imposed upon them.

Covers, when used, must be secured to prevent accidental displacement by wind, equipment, or employees.

All covers must be color coded or marked with the word: "HOLE" or "COVER" to identify the hazard.

**Note: The above does not apply to cast iron manhole covers or roadway steel grates.**

Covers, and only covers, will be used on walking/working surfaces to protect employees from tripping or stepping into or through a hole (including skylights). This provision is **regardless of the height** of the hole above a lower surface.

Covers, and only covers, will be used to protect employees from objects falling through holes (including skylights). This provision is **regardless of the height** of the hole above a lower surface.

### **Protection from Falling Objects:**

Specific protection from falling objects criteria are found in 29 CFR 1910.29 and we will use that criteria to protect employees of TINC from falling objects.

Covers are to be used to protect employees from objects falling through holes from upper surfaces regardless of heights.

Toeboards, used to prevent objects from falling on employees on a lower level must be at least 3½ inches high with not more than a ¼ inch clearance between the toeboard and the walking/working surface. When tools, materials, or equipment are piled higher than the top edge of the toeboard, paneling or screening will be erected from the top of the toeboard to the appropriate mid or top rail of the guardrail system to provide adequate protection to employees below.

### **Accidents and Near Accidents**

Accidents and near accidents involving fall hazards will be investigated by Matt Melander to determine the cause of the incident and a method of preventing a reoccurrence. Questions to be considered are:

- a. Was the fall protection system selected appropriate for the hazard?
- b. Was the system properly installed?
- c. Was the person involved in the accident following proper procedures?
- d. Were there contributing factors such as ice, wind, debris, etc.?
- e. Is retraining or a change of the Fall Protection Plan required?

## **Training**

TINC will provide any necessary training to anyone who uses personal fall protection systems or who is exposed to a potential fall hazard by a qualified person.

The training will cover at least the following topics:

- a. The nature of the fall hazards in the work area and how to recognize them.
- b. The procedures to be followed to minimize those hazards.
- c. The correct procedures for installing, inspecting, operating, maintaining, and disassembling the personal fall protection systems that the employee uses.
- d. The correct use of personal fall protection systems and equipment, including, but not limited to, proper hook-up, anchoring, and tie-off techniques.
- e. The correct methods of equipment inspection and storage, as specified by the manufacturer.

All employees are required to be trained in the requirements of this paragraph on or before May 17, 2017.

## **Retraining**

Employees will be retrained when there is reason to believe they do not have the understanding and skill required work safely around fall hazards. Situations requiring retraining include, but are not limited to, the following:

- a. When changes in the workplace render previous training obsolete or inadequate;
- b. When changes in the types of fall protection systems or equipment to be used render previous training obsolete or inadequate; or
- c. When inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee no longer has the requisite understanding or skill necessary to use equipment or perform the job safely.

Should the competent person, a supervisor, or Matt Melander suspect that an employee lacks the skills needed for proper fall protection, that employee will be retrained.

Changes to the facility, types of fall protection systems, or equipment being used will also necessitate retraining.

Only the latest Training Certificate will be kept on file.

# TINC TINC HQ

## Safety Net Installation Certification

As required by 29 CFR 1910.29(c), specific safety net systems criteria are found in 29 CFR 1926.502(c).

This is to certify that the Safety Net identified below was installed with sufficient clearance under it to prevent contact with the surface or structures below when subjected to an impact force equivalent to the drop test specified in 29 CFR 1926.502(c)(4)(i).

SAFETY NET MAKE: \_\_\_\_\_

SAFETY NET MODEL: \_\_\_\_\_

SAFETY NET LOCATION: \_\_\_\_\_

It was found to be unreasonable to perform the below listed drop test for the following reasons:

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Drop Test (Circle appropriate drop test to which the certification applies):

- a. After initial installation and before using drop test.
- b. After relocation drop test.
- c. After major repair drop test.
- d. After remaining in the same location for 6 months drop test.

\_\_\_\_\_  
(Competent Person)

\_\_\_\_\_  
(Date)

# TINC TINC HQ

## Fall Protection Plan

(Required when standard fall protection systems are not feasible)

With changes: \_\_\_\_\_  
(If no changes, enter "None")

This Fall Protection Plan is specific for the following project:

Project Name: \_\_\_\_\_

Location of Job: \_\_\_\_\_

Date Plan Prepared: \_\_\_\_\_ by: \_\_\_\_\_  
(Must be a Qualified Person)

Date Plan Modified: \_\_\_\_\_ by: \_\_\_\_\_  
(Must be a Qualified Person)

Date Plan Modified: \_\_\_\_\_ by: \_\_\_\_\_  
(Must be a Qualified Person)

Plan Approved by: \_\_\_\_\_

Plan Supervised by: \_\_\_\_\_

## Policy Statement

This Fall Protection Program has been developed to protect our employees from the easily identifiable danger associated with working at height: falling. While the general concept of Fall Protection is straight forward, those employees to whom this Program applies must have specific training applicable to their individual jobs. It is recognized that the nature of fall hazards may vary from project to project and even change during a specific project. Training will be on-going to reflect the various existing work situations.

A copy of our Fall Protection Program can be found in the main office at:

68 Tenney Street

Georgetown, MA 01833

833-879-8462

A copy of our Fall Protection Plan will be found on every applicable Job Site.

## Fall Protection Systems to be Used on this Job

All employees on this job/project will be protected from fall hazards by the use of one or more conventional fall protection systems. These systems include guardrail systems, safety net systems, personal fall arrest systems, positioning device systems, warning line systems, controlled access zones, safety monitoring systems, covers, and protection from falling objects.

Further, the conventional fall protection system used in each required circumstance will be in compliance with 29 CFR 1926.502(k) which addresses which systems are appropriate (allowed) for specific types of work.

## Training

All personnel at TINC working on this job/project have received training in our Fall Protection Program and are able to recognize fall hazards and understand procedures to minimize these hazards. Further, they have been trained, as necessary, by a competent person qualified in the following areas using both formal and hands on training:

- a. The nature of fall hazards in the work area.
- b. The procedures for erecting, maintaining, disassembling, and inspecting the fall protections to be used.
- c. The use and operation of guardrail systems, personal fall arrest systems, safety net systems' warning line systems, safety monitoring systems'-controlled access zones, and other protection to be used.
- d. Their role in the safety monitoring system when this system is used.
- e. The limitations on the use of mechanical equipment during the performance of roofing work on low sloped roofs.
- f. The procedures for handling and storage of equipment and materials and the erection of overhead protection.
- g. The roll of employees in fall protection plans.

## Enforcement

Awareness of and respect for fall hazards, and compliance with all safety rules are of great importance. Appropriate disciplinary action will be taken should an employee disregard the safety guidelines of TINC.

## Accident Investigation

All accidents that result in injury to employees, regardless of their nature, will be investigated and reported. It is important that documentation of accidents take place as soon as possible so that the cause may be determined, and steps may be taken to prevent a reoccurrence.

## Changes to this Plan

Changes to this plan, specifically a deviation from conventional fall protection systems, will be documented by a qualified person whose name appears on the front of this fall protection plan.

Changes will be limited to:

- a. Leading edge work

**Note: Leading edge work involves construction which moves the location of the edge forward (backward). Working at the edge of a walking/working surface (such as a roof) is not leading-edge work - it is (roofing) work at an unprotected side or edge.**

- b. Precast concrete construction work
- c. Residential construction work

The criteria for determination that a conventional fall protection is infeasible is that it is impossible to perform construction work with a conventional fall protection system or it is technologically impossible to use a conventional fall protection system. Inconvenience and cost are not acceptable considerations.

Specific Fall Protection Plan criteria are found in 29 CFR 1926.502(k) and we will, if necessary, create a Fall Protection Plans that comply with the cited criteria.

A separate change will be made for each situation where conventional fall systems cannot be used.

# TINC TINC HQ

## Changes to Fall Protection Plan

CHANGE NUMBER: \_\_\_\_\_

This change to the Fall Protection Plan for the below listed project will be attached to the original Fall Protection Plan and a copy will be available at the job site.

Project Name: \_\_\_\_\_

Location of Job: \_\_\_\_\_

Date Change Prepared: \_\_\_\_\_ by: \_\_\_\_\_  
(Must be a Qualified Person)

Date Change Modified: \_\_\_\_\_ by: \_\_\_\_\_  
(Must be a Qualified Person)

Change Approved by: \_\_\_\_\_

Change Supervised by: \_\_\_\_\_

Reference the above.

Changes to this Fall Protection Plan for this specific project are required for the following reason(s):

Specific work that requires fall protection other than conventional fall protection:

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Specific work areas where the above work will take place:

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Before any non-conventional fall protections are used as part of the work plan, a controlled access zone (CAZ) will be clearly defined by the competent person \_\_\_\_\_ as an

**(Name(s) of Competent Person)**

area where a recognized hazard exists. The demarcation of the CAZ will be communicated by the competent person in a recognized manner such as:

Circle one or more of the below:

- a. signs
- b. wires
- c. tapes
- d. ropes
- e. chains
- f. other: \_\_\_\_\_

All access to the CAZ will be restricted to authorized entrants. Those entrants will be identified by \_\_\_\_\_

**(Color hard hats; arm bands, etc.)**

and are listed below:

_____	_____	_____
_____	_____	_____
_____	_____	_____

The competent person will ensure the protective elements of the CAZ are implemented prior to the beginning of work.

Specific reasons why conventional fall protection is either infeasible or creates a greater hazard:

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Specific measures to be taken to reduce or eliminate fall hazards for personnel who cannot be provided conventional fall protection:

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In the above CAZ, a safety monitoring system will be implemented in conformance with 29 CFR 1926.502(h).

## **Forklifts**

### **29 CFR 1910.178 - Powered Industrial Trucks**

#### **Overview**

This program has been developed to make our truck operators aware of the hazards associated with motorized truck use as well as to provide guidance for safe truck operations.

Persons will be authorized to operate our forklifts only after they have successfully demonstrated their understanding of proper procedures for truck inspection, use, and refueling/recharging. Operators will demonstrate their truck knowledge and abilities by passing a written test and performing designated truck maneuvers. All truck operators will be evaluated by Matt Melander, our Forklift Program Administrator, or a designated competent person.

Because of their power, weight, size, restricted visibility, &, often, high center of gravity, operation of industrial trucks takes skill and attention to detail. One moment of inattention can lead to a major mishap in an instant. Additionally, the load presents potential hazards if not properly secured, balanced, and/or properly placed on the truck.

In accordance with 29 CFR 1910.178(b)12, Matt Melander, or other competent person, will determine whether the atmosphere or location in which our industrial trucks will operate is hazardous or non-hazardous &, after further assessing our needs, will determine which types of trucks are appropriate & allowed for our specific operations.

In the unlikely event that unsafe industrial motor truck operations are observed, retraining will be given with emphasis on correcting the improper behavior. To prevent the possibility of severe injury to the operator (or a bystander), our forklifts must be operated in a professional manner and anything less will not be tolerated.

All truck operators will have ready access to this program, appropriate OSHA standards, and the truck owner/operator manuals.

#### **Forklifts**

Forklifts are designed to move items quickly, safely, and cleanly. Forklift training would also apply to numerous types of powered industrial trucks such as: tractors, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines.

While many safety features are designed into forklifts, accidents still happen, and they are generally the result of operator error.

There is a general agreement among safety professionals, as well as OSHA, that requiring training for all persons (including part-time, seasonal, and temporary employees) who operate forklifts will significantly reduce the accident and injury rates.

#### **General Requirements**

All truck operators must be thoroughly familiar with the truck, itself. This includes knowing:

- a. Instinctively, what each and every control does.
- b. How to perform a truck safety check.
- c. The truck's limitations such as maximum load, height and width, visibility, stability, and surface requirements.
- d. The truck's stopping and turning ability and its effect on loads.

The below safety rules and guidelines to which one must adhere while operating a forklift have been established. These rules are designed to protect the operator and/or persons adjacent to truck operations.

Specifically:

- a. No person will operate one of our trucks unless authorized in writing.
  1. Prior to authorization, the operator will have read this program, received training, passed a quiz on truck operations, and been evaluated on operational skills.
  2. Authorization to operate one type of truck does not automatically authorize a person to operate all trucks. Different power sources, visibility restrictions, controls, and capacities may dictate, in the judgment of Matt Melander, that a separate certification process may be required for a different type of truck. There may be instances where a new vehicle does not necessitate new training and a demonstration of proficiency. A newer model of a currently used truck may be identical to the truck the operator is qualified on as far as safety and operations are concerned. As a general rule, each type of truck has its own characteristics, limitations, and idiosyncrasies -- each model of a type of truck may or may not be unique.
- b. No riders are allowed on our forklift unless:
  1. The truck is specifically designed for such use.
  2. The rider is authorized by Matt Melander.

**Note: Forklifts are generally designed to move product, supplies and equipment, not personnel.**
- c. Matt Melander will revoke the authority to operate a truck if unsafe acts are observed or it is apparent that the operator has not retained the knowledge and job skills necessary to safely perform truck operations.
  1. An operator who has lost his authorization to operate a truck will be retrained, reevaluated, and, if appropriate, re-certified.
- d. At the beginning of each shift, the operator will inspect the truck using our Forklift Daily Checklist.
  1. If deficiencies relating to safety are found, the deficiencies will be noted on the Checklist and reported to Matt Melander or other designated person. The vehicle will not be used until safety defects are repaired.
  2. If cosmetic damage is discovered during the daily check, it will be noted on the Checklist, but the truck will be used. Cosmetic faults will not delay our operations.

### **Hazards**

The major personal safety hazards involved in truck operation include:

- a. Physically hitting a person/object with the truck or load.
- b. Having a load fall and hit the operator or other person.
- c. Having the truck tip and crush the operator or other person.
- d. Fire or explosion during refueling/recharging.

Below are rules and guidelines to control the hazards identified & reduce the likelihood of accident/injury. While some of the procedures may seem too obvious to mention or just plain common sense, remember this —serious, even fatal, accidents have occurred because for one split second an operator forgot or ignored a basic safety rule.

### **Falling/Hitting a Person/Object:**

- a. Never drive up to a person standing in front of a fixed object.
- b. When possible, stay within delineated travel lanes or aisles.
- c. Be seen and/or heard.
- d. Ensure that adequate lighting is available.
- e. Maintain a clear view of travel. If the load blocks or restricts the view, the operator will drive with the load trailing (backwards).
- f. Slow down, sound horn, and do not pass where vision is restricted.
- g. Operate the truck at speeds that will allow it and the load to be stopped in a safe, smooth, manner.
- h. Be aware of floor conditions. Remove loose objects that have found their way to the truck travel lanes. Operate the truck at slower speeds on wet or slippery floors.
- i. Of course, stunt or reckless driving is prohibited.
- j. Be aware of the height of the truck and, if equipped, its mast and load. Carelessness can damage ceiling, lights, pipes, etc.
- k. Never allow anyone to stand or pass under an elevated portion of any truck at any time.

### **Falling Loads:**

- a. Know your load – do not “over stack.” Because practically all loads lifted or hauled by a forklift are not secured to the truck, ensure the load is properly stacked. Cartons generally should be interlaced or banded.
- b. If lifting a load or pallet, get the forks (or other engaging means) as far under the load as possible.
- c. Travel with the load in the lowest position for stability as well as prevention of hitting objects overhead. If using forks, tilt the load backward for stabilization.
- d. Do not exceed the truck’s rated capacity or stack loads too high.
- e. Do not make “jerky” movements such as slamming the brakes or high speed turns.
- f. A load backrest extension will reduce the possibility of part of the load falling rearward.
- g. When using a fork lift, the forks may be tilted forward only for picking up or setting down a load.

### **Tipping:**

Forklifts are, by design, narrow allowing them greater access within the work setting. Unfortunately, a narrow track offers less stability. Tipping or falling off an edge (or dock) is a preventable accident by following the guidelines below. If your truck tips, keep your body and limbs within the safety of the cage. Wear a seat belt if the truck is so equipped.

- a. Stay within travel lanes.
- b. If entering a trailer, ensure:
  1. The trailer brakes are engaged.
  2. The trailer is secured from movement by means of chocks and/or a locking mechanism.

3. The tractor is either shut off or removed from the trailer.
4. The trailer is squared up with the dock opening and dock plates are secure.
5. The trailer floor is capable of supporting the forklift and its load.
6. The lighting within the trailer is adequate.

**Note:** Falling off a dock edge because a trailer has moved is invariably a serious accident. Do not count on the tractor-trailer driver to lock his brakes or even trust that his brakes work. Physically check and ensure that the trailer into which you are taking your forklift is flush against the dock. If possible, the trailer should be actually attached to the dock, but in all cases, it should be chocked.

- c. Travel with the load in the lowest possible position and avoid sharp turns at higher speeds as well as abrupt truck movements.
- d. Be aware of the surface on which you are traveling -- its traction, ability to hold weight, slope, and surface.

### **Fire/Explosion during Refueling/Recharging:**

Refueling accidents are not common experiences, however should they occur, they would be sudden and possibly catastrophic. Follow the manufacturer's owner's manual and local fire laws.

- a. There is absolutely NO SMOKING or open flame during any portion of the refueling/recharging process.
- b. Per 29 CFR 1910.110, Storage and handling of liquefied petroleum gases, paragraph (f)(7), at least one approved portable fire extinguisher having a minimum rating of 8-B, C must be readily available when refueling propane.
- c. Facilities for quick drenching of the eyes and body must be readily available.

### **Other Concerns**

The program deals primarily with the personal safety of our forklift operators. However, when discussing truck operations, we would be remiss if it were not pointed out that improper truck operations could also result in physical damage to products, trucks, and/or facilities. Proper truck operation will reduce personal injury accidents, and, as an added benefit, prevent general damage.

### **Operator Protection**

A hazard assessment of forklift operations will be conducted by Matt Melander. Particular attention will be given to hand, head, eye, and foot protection, as well as environmental conditions such as atmospheres, heat, or cold. If the truck is equipped with a seat belt, it must be worn when the truck is moving.

Keep your limbs within the running lines of the truck and keep your hands and fingers away from moving parts -- particularly the mast on a fork lift truck.

Matt Melander will perform a hazard assessment of our truck operations and determine what, if any, personal protective equipment (PPE) requirements are appropriate. If PPE (examples: steel toed boots, leather gloves, hard hat, eye protection, etc.) is required, it must be worn.

## **Forklift Operations**

In addition to safety operating practices previously identified in this manual, the following will be considered general operating procedures:

- a. Fire aisles, access to stairways, and fire equipment must be kept clear.
- b. Operators leaving their trucks must ensure the load is fully lowered, controls neutralized, and brakes set. On an incline, the wheels must be blocked. If the operator is 25 feet or more from the truck or does not have a clear view of the truck, the power to the truck must be shut off.
- c. A safe distance will be maintained from the edge of ramps or platforms while on any elevated dock, platform, or freight car.
- d. Trucks will not be used for opening or closing freight doors.
  1. Trucks, like all items of equipment, will be used for the purpose for which they were designed.
- e. Be aware that if the operator of a semi-trailer has placed the rear wheels in a far forward position, the trailer may act as a “teeter-totter” when a heavy forklift enters the trailer. When a trailer is not coupled to a tractor, fixed jacks may be necessary to support the semi-trailer during loading or unloading.
- f. Be aware that the overhead guard (used as protection against falling objects) is designed to prevent injury from the impact of small packages, boxes, bagged material, etc. -- it is not necessarily designed to withstand the impact of a falling capacity load.
- g. In the event persons are lifted by a truck, a lifting platform must be securely attached to the lifting mechanism and the persons on the safety platform must have means of shutting off power to the truck.
- h. If more than one truck is operated, they must be separated by a safe distance (at least three truck lengths) and they may not pass each other in intersections, blind spots, or other dangerous locations. The right of way will be yielded to other trucks in emergency situations.
- i. Trucks traveling in the same direction will not be passed at all.
- j. Driving on grades:
  1. Grades will be ascended or descended slowly.
  2. When ascending or descending grades in excess of 10 percent, loaded trucks will be driven with the load upgrade.
- k. Motorized hand trucks must enter confined areas with the load end forward.

## **Maintenance**

While the operator is responsible for checking the truck before use, actual mechanical maintenance must be performed by an authorized person.

- a. If at any time a forklift is found to be in need of repair, defective, overheating, or in any way unsafe, the truck will be taken out of service until it has been restored to safe operating condition.
- b. Forklifts should be kept reasonably clean and free of excess oil and grease.

## Duties of our Forklift Administrator

The duties of Matt Melander include:

- a. Operator training and certification.
- b. Hazard assessment of our truck operations.
- c. Identification of truck operators who, through their performance have demonstrated a lack of retained knowledge or ability to safely operate a powered truck. These people will receive retraining.
- d. Keeping up-to-date of developments in the materials handling field with an emphasis on safety.

Additionally, Matt Melander will ensure that all truck operators have ready access to 29 CFR 1910.178, Powered Industrial Trucks, this program, and the individual truck's Operator/Owner Manual.

### Training

will administer the training portion of this program.

Interactive training will be given by a competent (one with knowledge, training, and experience) person with ample opportunity to ask questions and clarify all aspects of truck operation relating to safety.

Prior to actual truck operation on the job, all truck operators will become familiar with the contents of this program as well as the operator's manual applicable to the specific powered truck they will operate. Each operator will demonstrate an understanding of truck operations and complete a driving test which will include truck inspection, maneuvering, and fueling/charging.

New truck operators may operate powered trucks in a training capacity:

- a. When they are under the direct supervision of persons who have the knowledge, training, and experience to train and evaluate their competence.
- b. Where such operation does not endanger themselves or others.

will ensure that all truck operators have a complete understanding of the below listed topics:

#### Truck-Related Topics:

- a. Operating instructions, warnings, and precautions for the type of truck the operator will be authorized to operate.
- b. Differences between the truck and the automobile.
- c. Truck controls and instrumentation: where they are located, what they do, and how they work.
- d. Engine or motor operation.
- e. Steering and maneuvering.
- f. Visibility (including restrictions due to loading).
- g. Fork and attachment adaptation, operation, and use limitations.
- h. Vehicle capacity.
- i. Vehicle stability.

- j. Any vehicle inspection & maintenance that the operator will be required to perform.
- k. Refueling and/or charging and recharging of batteries.
- l. Operating limitations.
- m. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

Work-Related Topics:

- a. Surface conditions where the vehicle will be operated.
- b. Composition of loads to be carried and load stability.
- c. Load manipulation, stacking, and unstacking.
- d. Pedestrian traffic in areas where the vehicle will be operated.
- e. Narrow aisles and other restricted places where the vehicle will be operated.
- f. Hazardous (classified) locations where the vehicle will be operated.
- g. Ramps and other sloped surfaces that could affect the vehicle's stability.
- h. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust.
- i. Other unique or potentially hazardous environmental conditions in the work area that could affect safe operation.

Refresher training in relevant topics will be provided to the operator when:

- a. If unsafe truck operations are observed.
- b. After an accident or near-accident.
- c. Operator has received an evaluation that reveals that the operator is not operating the truck safely
- d. If the operator is to be assigned to drive a different type of truck.
- e. If work area changes could affect safe operation of the truck.

An evaluation of each powered industrial truck operator's performance must be conducted at least once every three years and refresher training will be provided as needed.

## Hazard Communication

29 CFR 1910.1200, [Hazard Communication](#)

29 CFR 1910.1200 Appendix A, [Health Hazard Criteria \(Mandatory\)](#)

29 CFR 1910.1200 Appendix B, [Hazard Determination \(Mandatory\)](#)

29 CFR 1910.1200 Appendix C, [Allocation of Label Elements \(Mandatory\)](#)

29 CFR 1910.1200 Appendix D, [Safety Data Sheets \(Mandatory\)](#)

29 CFR 1910.1200 Appendix E, [Definition of "Trade Secret" \(Mandatory\)](#)

### Purpose

The purpose of our hazard communication program is to ensure that the hazards of all chemicals produced or imported are classified, and that information concerning the classified hazards is transmitted to our employees. The provisions of our hazard communication program are consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Revision 3. The transmittal of information is to be accomplished by means of our comprehensive hazard communication program.

We will develop, implement, and maintain **at each workplace** a comprehensive written hazard communication program for our employees which includes container labeling and other forms of warning, safety data sheets and employee training.

**Note:** Where employees must travel between workplaces during a work shift, *i.e.*, their work is carried out at more than one geographical location, the safety data sheets may be kept at the primary workplace facility. In this situation, the employer will ensure that employees can immediately obtain the required information in an emergency.

Hazard communication applies to any hazardous substance which is known to be present in the work place in such a manner that employees may be exposed under normal conditions of use or in a reasonably foreseeable emergency resulting from work place operations.

Manufacturers and importers will obtain or develop a safety data sheet for each hazardous substance they produce or import. We will obtain from the manufacturer or seller an SDS of each hazardous substance which we use.

We will maintain a list of the hazardous substances known to be present using an identity that is referenced on the appropriate SDS. This list may be compiled for the workplace as a whole or for individual work areas.

We will also maintain copies of the required SDS for each hazardous chemical & will ensure that they are readily accessible to each employee when they are in their work areas.

Electronic access and other alternatives to maintaining paper copies of the safety data sheets are permitted as long as no barriers to immediate employee access in each workplace are created by such options.

As a matter of course, before a new product is purchased, we will review its SDS to determine the presence of carcinogenic or other extremely hazardous chemicals. Using this information from the SDS, we will be able to inform employees how they will be protected from carcinogens at the workplace.

Prior to performing a non-routine task (for example, the cleaning of reactor vessels), an employee will be given information by a competent person or supervisor concerning the hazardous chemicals to which he may be exposed. This information will include:

- a. Specific chemical hazards
- b. Protective/safety measures the employee is to use.
- c. Measures taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

Should work activities be performed in areas where chemicals are transferred through unlabeled pipes, the employee will be informed by the competent person or supervisor of:

- a. The chemical in the pipes.
- b. Viscosity, pressure, heat.
- c. Potential Hazards.
- d. Safety precautions to be taken.

In multi-employer workplaces, our written hazard communication program will include the methods we will use to inform any other employers sharing the same work area of the hazardous chemicals to which their employees may be exposed while performing their work, & any suggestions for appropriate protective measures, including the following:

The competent person at the workplace will inform those with whom TINC work of any hazardous chemical products we are using & will provide them with the appropriate SDS for their review. SDS for all chemical products used at the workplace will be readily available.

Should TINC introduce a new chemical product to the facility that contains a physical or health safety hazard, the product's SDS will accompany that product and, before use, employees will be given instruction on the products hazards.

### **Labels and Other Forms of Warning**

The manufacturer, importer, or distributor will ensure that each container of hazardous chemicals leaving the workplace is labeled, tagged or marked. Where the manufacturer or importer is required to label, tag or mark the following information will be provided:

- a. Product identifier;
- b. Signal word;
- c. Hazard statement(s);
- d. Pictogram(s);
- e. Precautionary statement(s); and,
- f. Name, address, and telephone number of the manufacturer, importer, or other responsible party.

The manufacturer or importer preparing the safety data sheet will ensure that the information provided accurately reflects the scientific evidence used in making the hazard determination. If the manufacturer or importer, become aware of any significant information regarding the hazards of a chemical, or ways to protect against the hazards, this new information will be added to the safety data sheet within three months. If the chemical is not currently being produced or imported, the manufacturer or importer will add the information to the safety data sheet before the chemical is introduced into the workplace again. TINC will replace safety data sheets with updated copies as they are received.

Product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical.

Example below for labeling:

<p><b>HS85</b> Batch number: 85L6543</p> <p></p> <p><b>Warning</b> Harmful if swallowed</p> <p>Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Dispose of contents/container in accordance with local, state and federal regulations.</p> <p><b>First aid:</b> If swallowed: Call a doctor if you feel unwell. Rinse mouth.</p> <p>GHS Example Company, 123 Global Circle, Anyville, NY 130XX</p> <p>Telephone (888) 888-8888</p>
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We may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual stationary process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the information required by the above to be on a label. The written materials will be readily accessible to the employees at TINC in their work area throughout each work shift. We may use such written materials in lieu of affixing labels to individual containers as long as the alternative method identifies and accompanies the containers to which it is applicable and conveys the information required to be on a label.

We **are not required** to label portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use of the employee who performs the transfer.

We will not remove or intentionally deface existing labels on incoming containers of hazardous chemicals, unless the container is immediately marked with the required information.

We will ensure that workplace labels or other forms of warning are legible, in English, and prominently displayed on the container, or readily available in the work area throughout each work shift. If we have employees who speak languages other than English, we will add the information to the presented material translated to the appropriate language and the information will be presented in their language.

**Note:** OSHA pictograms do not replace the diamond shaped labels that the U.S. Department of Transportation (DOT) requires for the transport of chemicals, including chemical drums, chemical totes, tanks, or other containers. Those labels must be on the external part of a shipped container and meet the DOT requirements set forth in 49 CFR 172, Subpart E.

## **Employee Information and Training**

TINC will provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard is introduced into their work area. Information and training may relate to general classes of hazardous chemicals to the extent appropriate and related to reasonably foreseeable exposures of the job. Chemical-specific information must always be available through labels and safety data sheets.

Information and training will consist of at least the following topics:

- a. Employees will be informed of the requirements of 29 CFR 1910.1200, Hazard Communication, and its appendices.
- b. Employees will be informed of any operations in their work area where hazardous chemicals are present.
- c. Employees will be informed of the location and availability of the written hazard communication program, including the list(s) of hazardous chemicals and safety data sheets required by this section.
- d. Employees will be trained in the methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as conducting specific monitoring, using continuous monitoring devices, learning the visual appearance or odor of hazardous chemicals when being released, etc.).
- e. Employees will be trained in the physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area, and the measures they can take to protect themselves from these hazards, including specific procedures that TINC has implemented to protect our employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.
- f. Our employees will be trained in the details of our hazard communication program, including an explanation of the labels received on shipped containers and the workplace labeling system used by their employer and the safety data sheet, and how our employees can obtain and use the appropriate hazard information.

## **Documentation of Training**

Documentation of safety and health training will be maintained for at least one (1) year.

Documentation will include:

- a. employee name or other identifier
- b. training dates
- c. type(s) of training
- d. training providers

Employees will be informed employees of the right:

- a. To personally receive information regarding hazardous substances to which they may be exposed, according to the provisions of this section;
- b. For their physician or collective bargaining agent to receive information regarding hazardous substances to which the employee may be exposed according to provisions of this section;
- c. Against discharge or other discrimination due to the employee's exercise of the rights afforded pursuant to the provisions of the Hazardous Substances Information and Training Act.

Whenever TINC receives a new or revised safety data sheet, such information will be provided to employees on a timely basis not to exceed 30 days after receipt, if the new information indicates significantly increased risks to, or measures necessary to protect, employee health as compared to those stated on a safety data sheet previously provided.

**TINC  
TINC HQ**

**Request for Safety Data Sheets**

TO:

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Supplier)

\_\_\_\_\_  
(PO Box/Street Address)

\_\_\_\_\_  
(City, State, ZIP)

To whom it may concern:

On \_\_\_\_\_, we received a shipment of \_\_\_\_\_,  
(Date) (Product Name)

Reference Invoice: \_\_\_\_\_.  
(Invoice Number)

The above product was received without an accompanying Safety Data Sheet (SDS).  
Per 29 CFR 1910.1200, we are unable to use this product without its SDS.

Please furnish the appropriate SDS as soon as possible to:.

TINC

68 Tenney Street  
Georgetown, MA 01833  
833-879-8462

Thank you,

\_\_\_\_\_  
Eric Rogers  
Safety Director

## List of Hazardous Chemicals

## Chemicals

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Lockout/Tagout - Control of Hazardous Energy

### 29 CFR 1910.147 - The Control of Hazardous Energy (Lockout/Tagout)

### 29 CFR 1910.333 - Selection and Use of Work Practices

#### Overview

TINC will comply with the provisions of 29 CFR 1910.147, *The Control of Hazardous Energy (Lockout/Tagout)* and 29 CFR 1910.333, *Selection and Use of Work Practices*, the standards on which this program is based.

Coordination will be established between TINC and, if appropriate, contractors at our facility to clearly indicate who is responsible for what function of the program, as well as the identifying characteristics of the lockout/tagout devices, shape, color, color codes for locks and tags, if used.

Coordination is required because – for example: our employee may complete lockout/tagout procedures and perform maintenance on a fixed piece of equipment while a contractor's employee is affected by that work.

All our employees affected by this program will be "authorized employees" by virtue of their work (see "Definitions" below.)

#### Definitions

There are a number of terms and phrases which must be understood by all employees to grasp the general thrust of this Program. For those employees directly involved with this Program or affected by it, there are specific requirements and procedures which would be meaningless without an understanding of the "language" of Control of Hazardous Energy.

**Affected Employee** means an employee whose job requires him/her to operate or use a machine or equipment on which servicing, or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

**Authorized Employee** means a person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing service or maintenance covered under 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

**Note:** An authorized employee is authorized to service only machines and equipment with which he/she is familiar by training and/or experience.

**Capable of Being Locked Out** means an energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

**Energized** means connected to an energy source or containing residual or stored energy.

**Energy Isolating Device** means a mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

**Energy Source** means any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

**Fixed Equipment** means equipment fastened in place or connected by permanent wiring methods.

**Hot Tap** means a procedure used in the repair, maintenance and service activities which involves welding on a piece of equipment (pipelines, vessels, or tanks) under pressure in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

**Lockout** means the placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

**Lockout Device** means a device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in a safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

**Normal Production Operations** means the utilization of a machine or equipment to perform its intended production function.

**Other Employees** means those employees whose work operations are or may be in an area where energy control procedures may be utilized.

**Servicing and/or Maintenance** means workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes where the employee may be exposed to the unexpected energization or startup of equipment or release of hazardous energy.

**Setting Up** means any work performed to prepare a machine or equipment to perform its normal production operation.

**Tagout** means the placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

**Tagout Device** means a prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

## Applicability

The provisions of this program apply when there is a possibility of injury due to the unexpected energization, start up, or release of stored energy while constructing, installing, setting up, adjusting, inspecting, modifying, maintaining, or servicing fixed machinery. Stored energy in an electro/mechanical system can be found in rotating flywheels, weights and counter-weights, hydraulic and pneumatic pressure, thermal and chemical energy, springs, and unbalanced loads.

This program does not apply to:

- a. Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or startup of the equipment is controlled by unplugging the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.
- b. Hot tap operations provided:
  1. Continuity of service is essential.
  2. Shut down of the system is impractical.
  3. Documented procedures are followed and special equipment is used which will provide proven effective protection for employees.

## Procedures for Control of Hazardous Energy

The general procedures for lockout, tagout, or lockout and tagout are quite similar. Below are instructions which apply to all control of hazardous energy procedures. Exceptions and specific requirements for lockout without tagout; tagout without lockout; and lockout used in conjunction with tagout are noted in their own subchapters.

### General Procedures

**Note:** Throughout this section, lockout/tagout refers to lockout without tagout; tagout without lockout; and lockout used in conjunction with tagout.

**Purpose and Scope:** Effective hazardous energy control procedures will protect employees during machine and equipment servicing and maintenance where the unexpected energization, start up or release of stored energy could occur and cause injury. Further, effective hazardous energy control procedures will protect employees when working near or on exposed de-energized electrical conductors and parts of electrical equipment. Hazards being guarded against include, but are not limited to, being cut, struck, caught, crushed, thrown, mangled, and/or shocked by live electrical circuits caused by the unexpected release of hazardous energy. One (1) piece of machinery can have more than one (1) real or potential source of hazardous energy that must be guarded against.

These procedures for the control of hazardous energy will ensure that machines and equipment are isolated properly from hazardous or potentially hazardous energy sources during servicing and maintenance and properly protected from re-energization as required by 29 CFR 1910.147.

While any employee is exposed to contact with parts of fixed electrical equipment or circuits which have been de-energized, the circuits energizing the parts will be locked out and/or tagged in accordance with the requirements of 29 CFR 1910.333 (b)(2).

**Preparation for Shutdown:** Prior to lockout/tagout, all energy isolating devices must be located which apply to the specific machine in question. **There may be more than one energy source.** While electrical is most common, other sources could be: hydraulic, pneumatic, chemical, thermal, rotational, spring, etc. All must be isolated. The Energy Source Evaluation Form and the Control Procedures Form must be completed prior to isolation. These forms must be completed by an authorized employee. Once completed, it is recommended that these evaluations remain on file for future use. Any changes in design or energy hazard will require an update of these forms. Not only the energy source hazard, but its magnitude must be recorded on the Energy Source Evaluation Form. Example: Energy Source: Pneumatic. Magnitude: 125 psi.

Before an authorized or affected employee turns off the piece of equipment, the authorized employee must have knowledge of the type and magnitude of the energy to be controlled and the methods or means to control the energy. Refer to the Control Procedures Form for specific energy control procedures.

**Machine or Equipment Shutdown:** Before lockout/tagout controls are applied, all affected employees will be notified and given the reasons for the lockout/tagout.

If a machine or equipment is operating, it will be shut down by normal stopping procedures by either the affected or authorized employee.

**Lockout/Tagout Device Application:** Authorized employees will lockout/tagout the energy isolating devices with assigned individual locks. Locks or other lockout/tagout devices will be color coded and will be used for no other purpose. Lockout/tagout devices will indicate the identity of the authorized employee applying the device.

Lockout/tagout devices will be durable and capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected. They will be standardized in color and be substantial enough to prevent their removal without the use of excessive force or unusual techniques such as bolt cutters or other metal cutting tools. Key or combination locks are acceptable. Tagout device attachments will be non-reusable, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds. The tagout attachment will have the general design and basic characteristics of, at a minimum, a one-piece, all environmental tolerant nylon cable tie.

Lockout/tagout devices will be applied so that they will hold the energy isolating devices in a "Neutral" or "Off" position. Protective materials and hardware will be provided for isolating, securing or blocking of machines or equipment from energy sources. These protective materials and hardware include, but are not limited to, locks, tag chains, wedges, key blocks, adapter pins, self-locking fasteners, etc.

**Release or Stored Energy:** All stored energy will be blocked or dissipated. Types of stored energy include flywheels, springs, hydraulic or pneumatic systems, etc. Should there be a possibility of re-accumulation of stored energy, verification of isolation must be continued until servicing is complete.

**Verification of Isolation:** Prior to starting work on machines or equipment that have been locked out and after ensuring that no personnel are exposed to the release of hazardous energy, the authorized employee will operate the normal operating controls to verify that the machine or equipment has been de-energized & that it will not operate.

After the above test, the operating controls will be returned to the "NEUTRAL" or "OFF" position. At this point, the machine/equipment is now locked out. The work may proceed.

**Release from Lock/Tagout:** Before the lockout/tagout devices are removed and energy is restored to the machine or equipment, the following procedures will be implemented to ensure the safety of everyone involved:

- a. The work area will be inspected to ensure that nonessential items have been removed and to ensure that the machine or equipment components are operationally intact.
- b. The work area will be checked to ensure that all employees have been safely positioned or removed.

After the lockout/tagout devices have been removed and before the machine or equipment is started, affected employees will be notified that the lockout/tagout devices have been removed. Each lockout/tagout device must be removed by the authorized employee who applied it.

**Note:** The one exception to the above is when the authorized employee who applied the lockout/tagout device is not available to remove it. That device may be removed under the direction of the competent person provided that the below specific procedures are followed:

- a. Verification by the competent person that the authorized employee who applied the lockout/tagout device is not at the facility.
- b. All reasonable efforts will be made to contact the authorized employee to inform him/her that his/her lockout/tagout device has been removed.
- c. Ensuring that the Authorized employee has been informed of the above before resuming work.

The person who removes the device must be an authorized employee.

Each type of control of hazardous energy procedure will be documented using the Energy Source Evaluation Form and the Control Procedures Form **except** when all the below listed conditions exist:

- a. The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could endanger employees; and
- b. The machine or equipment has a single energy source which can be readily identified and isolated; and
- c. The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment; and
- d. The machine or equipment is isolated from that energy source and locked out during servicing and maintenance; and
- e. A single lockout device is under the exclusive control of the authorized employee performing the servicing and maintenance; and
- f. The servicing and maintenance does not create hazards for other employees; and
- g. No accidents have occurred involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance.

The above exceptions apply to documentation only. Whether using lockout, tagout, or lockout and tagout, the general procedures are the same.

## Device Selection Criteria for Non-Electrical Hazardous Energy

A lock, color coded with either paint or tape and identifiable with the name of the employee who applied it, will be placed on each energy-isolating device where feasible. Lockout is the primary means of non-electrical hazardous energy isolation and, where possible, will always be used in lieu of tagout. In the event a machine or piece of equipment will not accept a lock on its energy isolating device(s), it will be modified to do so whenever it is replaced, renovated, or undergoes a major repair.

There are occasions where lockout cannot be accomplished and, in those instances, tagout alone may be used as long as it provides full employee protection as explained below:

- a. A tag may be used without a lock if a lock cannot be physically applied. This procedure must be supplemented with at least one additional safety measure providing a level of safety equivalent to that obtained by the use of a lock. Examples of additional safety measures include, but are not limited to the:
  1. Removal of an isolating circuit element.
  2. Blocking of a controlling switch.
  3. Opening of an extra disconnecting device.

**Note:** A tag may be used without a lock if it can be demonstrated that tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock. This demonstration must be documented. This is an allowable, but not preferred, option.

All affected persons must be fully aware of the fact that tags used in tagout procedures are essentially a warning device affixed to energy isolating devices. Unlike locks, tags do not physically restrain. Tags will:

- a. Be capable of withstanding the environment to which they have been exposed for the maximum period of time that exposure is expected.
- b. Be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
- c. Be standardized in at least one (1) of the following:
  1. Color
  2. Shape
  3. Size
- d. Be standardized in print and format.
- e. In their method of attachment, be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment methods and means will be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum strength of no less than 50 pounds and have the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.
- f. Indicate the identity of the employee applying the tag.
- g. Warn against the hazardous conditions if the machine or equipment is energized and will include a legend such as the following: *Do Not Start, Do Not Open, Do Not Close, Do Not Operate, etc.*

## **Control of Electrical Hazardous Energy on Fixed Equipment**

Electrical hazards associated with fixed equipment present a special hazard class and, in each case, a determination must be made whether lockout, tagout, or lockout used in conjunction with tagout is to be utilized.

The guidelines for this determination are found in 29 CFR 1910.333. 29 CFR 1910.333 makes no mention of maintenance or servicing. Its provisions apply to any possible exposure to contact with fixed electrical equipment or circuits which have been de-energized. Live parts that operate at less than 50 volts to ground need not be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs. Fixed equipment is defined as: "equipment fastened in place or connected by permanent wiring methods."

Before circuits and/or equipment are de-energized, safe procedures will be determined before the fact. At a minimum:

- a. The circuits and equipment to be de-energized will be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, may not be used as the sole means for de-energizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.
- b. Stored electric energy which might endanger personnel will be released. Capacitors will be discharged, and high capacitance elements will be short-circuited and grounded if the stored electric energy might endanger personnel. Be aware of the shock potential of capacitors and associated equipment. If they are handled in meeting this requirement (discharging), they will be treated as energized until they have been totally discharged.
- c. Stored non-electrical energy in devices that could reenergize electric circuit parts will be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

### **Device Selection Criteria for Electrical Hazardous Energy**

**Note:** When dealing with safety related work practices to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, a Qualified Person is defined as one who: "is permitted to work on or near exposed energized parts" and who, at a minimum, has been trained in and is familiar with:

- a. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment, and
- b. The skills and techniques necessary to determine the nominal voltage of exposed live parts, and
- c. The clearance distances specified in 29CFR 1910.333(c) and the corresponding voltages to which the qualified person will be exposed.

A lock and tag will be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed except:

- a. A tag may be used without a lock if it can demonstrate that tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock. This demonstration must be documented. This is an allowable, but not preferred, option. A tag may also be used without a lock, if a lock cannot be physically applied. Under either of the above two circumstances that a tag is used without a lock, the procedures must be supplemented with at least one additional safety measure that provides a level of safety equivalent to that obtained by the use of a lock. Examples of additional safety measures include:
  1. The removal of an isolating circuit element.
  2. The blocking of a controlling switch.
  3. The opening of an extra disconnecting device.
- b. A lock may be used without a tag if, and only if:
  1. Only one circuit or piece of equipment is being de-energized, and
  2. The lockout period does not extend beyond the work shift, and
  3. Employees exposed to the hazards associated with re-energizing the circuit are familiar with this procedure -- utilizing a lock without a tag.

After electrical hazards are locked out, tagged out, or locked and tagged out, a Qualified Person must verify de-energization before work can proceed on de-energized equipment. Verification by the Qualified Person will include:

- a. Operation of the equipment's operating controls, or otherwise verifying that the equipment cannot be restarted.
- b. Using test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and verifying that the circuit elements and equipment parts are de-energized.
- c. Using test equipment to determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage back feed even though specific parts of the circuit have been de-energized and presumed to be safe.

**Note:** If the circuit to be tested is over 600 volts, the test equipment will be checked for proper operation immediately before and immediately after this test.

### **Re-energizing Electrical Equipment**

The process of re-energizing electrical equipment, even temporarily, must be accomplished as noted below in the order listed:

- a. A Qualified Person will conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuit and equipment can be safely energized.
- b. Employees exposed to the hazards associated with re-energizing the circuit or equipment will be warned to stay clear of circuits and equipment.
- c. Each lock and tag will be removed by the authorized employee (who must also be a Qualified Person when dealing with electrical hazards).

- d. If the person who applied the lock or tag is absent from the facility, the competent person may designate another Qualified Person to remove the lock and/or tag provided that:
  1. It is assured that the Authorized Person who applied the lock or tag is not available at the facility, and
  2. It is assured that the Authorized Person who applied the lock and/or tag is aware that the lock and/or tag has been removed before he/she resumes work at the facility.
- e. A visual determination will be accomplished to ensure all employees are clear of the circuits energized.

### **Special Considerations**

Whether using lockout, tagout, or lockout and tagout procedures, the below special considerations apply.

There may be special circumstances where, during a lockout procedure, a machine or equipment must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine or equipment or components thereof. The below procedures will be followed to accomplish this task:

- a. The machine or equipment will be cleared of tools and nonessential items and, if it is to be operated, all components will be operationally intact.
- b. The work area will be checked to ensure that all employees have been safely positioned or removed.
- c. The standard release from lockout procedures will be implemented.
- d. The machine or equipment will be energized, and testing or positioning will proceed.
- e. After testing or positioning, de-energize all systems and reapply the energy control device following standard procedures.

### **Group Lockout and/or Tagout Procedures**

In the event that servicing, or maintenance is performed by more than one individual, the following will be implemented:

- a. One person will be designated as Group Leader and that person will have overall responsibility for a set number of employees working under his/her control.
- b. The Group Leader will have exclusive control of a Master Group Lockout and/or Group Tagout device.
- c. The Group Leader will ascertain the exposure status of individual group members with regard to the lockout and/or tagout of the machine or equipment.
- d. Each authorized employee within the group will affix his personal lockout/tagout device to a group lockout box or comparable device before beginning work and will remove his/her personal lockout/ tagout device upon completion of work.

If there is more than one group of personnel working a machine or piece of equipment, an employee will be designated to coordinate and take responsibility for all the individual groups.

### **Shift and/or Personnel Changes**

In the event that Energy Control Procedures must extend into the next shift or if there are individual or group personnel changes, the procedures listed below will be implemented in the order listed:

- a. If the energy isolation device will accept two lockout/tagout devices:
  1. The authorized employee coming on duty will place his personalized lockout/tagout device in place, and
  2. After the above step has been completed, the employee going off duty will remove his lockout/tagout device.
- b. If the energy isolation device will not accept two lockout/tagout devices, both the incoming and outgoing authorized employees will:
  1. Ensure that all affected employees are aware that a lockout/tagout change is about to take place, then
  2. Ensure that the area is clear of tools and affected employees, then
  3. The outgoing authorized employee will remove his lockout/tagout devices and immediately the incoming authorized employee will install his lockout/tagout devices, and
  4. The incoming authorized employee will inform the affected employees that the change has been completed.

Following the above procedure will ensure the energy isolating device was never disturbed and that complete control of hazardous energy was maintained. The above procedure provides for continuing protection for both incoming and outgoing employees from the potential hazards of the unexpected release of hazardous energy and an orderly transfer of lockout/tagout responsibilities.

### **Periodic Inspections**

Eric Rogers, our Safety Director will conduct periodic inspections of this Control of Hazardous Energy Program at least annually to ensure that the procedures and requirements of 29 CFR 1910.147 are being followed. The information gleaned from the periodic inspection will be used to correct any deviations or inadequacies identified. These inspections will be documented and certification will be prepared to identify the machine or equipment on which an energy control procedure was utilized, the date of the inspection, the employees included in the inspection, and the name of the person performing the inspection. It should be noted that all periodic inspections will be conducted by a competent person, designated by Eric Rogers, **other** than the person who actually used the energy control procedure being inspected.

### **Training**

Control of Hazardous Energy training will be documented giving the name of the trainer, the name of the trainee, and the date. Authorized employees must be familiar with this program and will be trained in the following areas: recognition of all applicable hazardous energy sources, types and magnitude of energy sources, methods and means necessary for energy isolation and control, and changes to our program.

Retraining will be conducted when a periodic inspection reveals inadequacy in an authorized employee's knowledge, there has been a deviation from established policy or procedure, or our procedures are changed.

All training will be interactive with applicable standards readily accessible.

# TINC

## TINC HQ

Machine/Equipment Identification: \_\_\_\_\_

Location of Machine Equipment: \_\_\_\_\_

Authorized Person Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Energy Sources Evaluation & Control Procedures Form

MACHINE OR EQUIPMENT NAME: \_\_\_\_\_ LOCATION: \_\_\_\_\_

MODEL: \_\_\_\_\_ SERIAL NUMBER: \_\_\_\_\_ PROCEDURE NUMBER: \_\_\_\_\_

ENERGY SOURCE	MAGNITUDE (Volts; Amps; Phase; HP; Lbs.; RPM; Ft-lbs.; psi; F/C; Highly Reactive)	LOCATION OF ISOLATING DEVICE	MEANS OF ISOLATION	COMMENTS
CAPACITOR				
CHEMICAL				
COUNTER WEIGHT				
ELECTRICAL				
ENGINE				
FLYWHEEL				
HYDRAULIC				
PNEUMATIC				
SPRING				
THERMAL				
OTHER				
OTHER				

**Note: This form must be completed by an Authorized Employee.**

EVALUATION CONDUCTED BY:

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

(MUST BE AN AUTHORIZED EMPLOYEE)

# TINC

## TINC HQ

**Machine/Equipment Identification:** \_\_\_\_\_

**Location of Machine Equipment:** \_\_\_\_\_

**Authorized Person Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

These Procedures must be accomplished in the order listed.

1. **PREPARATION FOR SHUTDOWN:** The Authorized Employee will be totally familiar \_\_\_\_\_ with the first page of this form. The Affected Employees will be notified that the piece of \_\_\_\_\_ equipment is about to be shut down and locked out.

Specific Instructions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. **SHUTDOWN:** Affected Employees will be given the reason(s) for the lockout/tagout procedures. If the machine is running, it will be turned off using normal procedures. It may be shut down by either the Authorized Employee or the Affected Employee.

Specific Instructions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. **MACHINE ISOLATION:** All real or potential hazardous energy listed on the first page of \_\_\_\_\_ this form will be isolated from their source. The location of the isolation devices and the \_\_\_\_\_ methods used are also found on the first page of the form.

Specific Instructions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. **LOCKOUT/TAGOUT DEVICE APPLICATION:** Authorized Employees will (circle appropriate procedure): [lockout] [tagout] [lockout and tagout] the energy isolating devices. Lock and tag devices will be color coded and they will contain the identity of the Authorized Employee actually performing this procedure. The lockout/tagout devices will be applied so that they hold the energy isolating device in a "Neutral" or "Off" position.

Specific Instructions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4a. If a tag is used in lieu of a lock because the energy isolating device will not accept a lock, the following additional safety precautions will be taken [29 CFR 1910.147 c(3)(ii) & 29 CFR 1910.333(2)(b)(iii)((D))]:

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Specific Instructions: \_\_\_\_\_

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**5. RELEASE OF STORED ENERGY:** All stored energy will be blocked or dissipated. Reference page one (1) of this form to ensure real or potential stored energy in a system is identified and controlled.

Specific Instructions: \_\_\_\_\_

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**6. VERIFICATION OF ISOLATION:** Prior to starting work on the piece of equipment and after ensuring that no personnel are exposed to the release of hazardous energy, the Authorized Employee will operate the controls to verify that there has been de-energization and that the equipment will not operate. After this verification, the operating controls will be returned to the "Neutral" or "Off" position.

Specific Instructions: \_\_\_\_\_

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**7. RELEASE FROM LOCKOUT/TAGOUT:** The Authorized Employee will 1.) Ensure that all Employees have been safely positioned or removed and the work area will be cleared of non-essential items, 2.) Ensure the equipment or equipment components are operationally intact; 3.) Ensure machine guards have been replaced; 4.) Inform the Affected Employees that lockout and or tagout devices are going to be removed; 5.) Remove the lockout and or tagout devices including all energy restraints such as blocks; and 6.) Inform the Affected Employees that the equipment is ready for operation.

Specific Instructions: \_\_\_\_\_

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# TINC

## TINC HQ

### Group Leader Documentation Form

One (1) person will be designated as Group Leader. The Group Leader will have overall responsibility for a set number of employees.

The Group Leader will have exclusive control of a Master (Group) Lockout and/or Group Tagout device.

The Group Leader will ascertain the exposure status of individual group members with regard to the lockout and/or tagout of the machine or equipment.

Each individual authorized employee within the group will affix his personal lockout/tagout device to a group lockout box or comparable device before beginning work and will remove his/her personal lockout/tagout device upon completion of work.

If there is more than one group of personnel working on a machine or piece of equipment, an employee will be designated to coordinate and take responsibility for all the individual groups.

NAME OF DESIGNATED GROUP LEADER: \_\_\_\_\_

#### EQUIPMENT REQUIRING CONTROL OF HAZARDOUS ENERGY

NAME: \_\_\_\_\_ SERIAL NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_ MODEL NUMBER: \_\_\_\_\_

#### AUTHORIZED (QUALIFIED) EMPLOYEES OF THE GROUP

\_\_\_\_\_  
(Name) (Signature)

\_\_\_\_\_  
(Name) (Signature)

\_\_\_\_\_  
(Name) (Signature)

\_\_\_\_\_  
(Name) (Signature)

\_\_\_\_\_  
Matt Melander

Program Administrator

SIGNATURE OF GROUP LEADER: \_\_\_\_\_

## Periodic Inspection Documentation Form

NAME: \_\_\_\_\_ SERIAL NUMBER: \_\_\_\_\_

If no, complete the below section, sign the form and return to Eric Rogers.

\_\_\_\_\_  
(Name) \_\_\_\_\_ (Signature)

\_\_\_\_\_  
(Name) \_\_\_\_\_ (Signature)

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**Note: If improper procedures are noted, the above employees must have retraining or the Program must be modified**

## Permit-Required Confined Space Program

29 CFR 1910.1046 - Permit-Required Confined Spaces

29 CFR 1910.1000 - Air Contaminants

29 CFR 1910.1000 - Table Z-1 Limits for Air Contaminants

29 CFR 1910.1000 - Table Z-2

29 CFR 1910.1000 - Table Z-3 Mineral Dusts

### Overview

All employees required to enter into confined or enclosed spaces will be instructed as to the nature of the hazards involved, the necessary precautions to be taken, and in the use of protective and emergency equipment required. TINC are to comply with any specific regulations applying to this potentially dangerous situation. 29 CFR 1910.146, Permit-Required Confined Spaces, applies to confined space entry.

### Confined Spaces

Confined spaces are dangerous because of their configuration, their actual or potential atmosphere, and other hazards that may present themselves such as engulfment.

This Program is designed to:

- a. Identify and evaluate permit space hazards before entry.
- b. Provide a system of testing conditions before entry and monitoring conditions during entry.
- c. Provide a system of preventing unauthorized entry.
- d. Provide a method of eliminating or controlling hazards for safe permit-space entry operations.
- e. Provide a method of ensuring at least one (1) Attendant is stationed outside the permit space for the duration of the entry operations.
- f. Provide a method of coordinating and monitoring entry operations when employees of more than one employer are to be working in the permit space.
- g. Provide appropriate procedures for emergency rescue.
- h. Establish a written procedure for preparation, issuance, use, and cancellation of entry permits.
- i. Provide a system for review and revision of our Program.
- j. Provide a complete understanding of OSHA Standard 29 CFR 1910.146 for all workers affected by the provisions.

After all is said and done, the bottom line is this:

- a. A confined space is a space that:
  1. Is large enough and so configured that an employee's body can enter and perform assigned work and
  2. Has limited or restricted means for entry or exit. At the workplace, these spaces may include: ventilation or exhaust ducts, bins and tanks, boilers, sewers, tunnels and open top spaces more than 4 feet in depth such as pits, tubs, and vessels and
  3. Is not designed for continuous employee occupancy.
- b. A Permit-Required Confined Space is:
  1. A confined space that contains any recognized serious safety or health hazards.

## Definitions

The Permit-Required Confined Space standard contains terms which must be understood by all those involved with entry to confined space, permit-required or not. These terms should be known to avoid miscommunication:

**Acceptable Entry Conditions** means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can enter safely into and work within the space.

**Attendant** means an individual stationed outside one or more permit spaces who monitors the Authorized Entrants and who performs all Attendant's duties identified and assigned in our permit-required confined space program.

**Authorized Entrant** means denotes an employee who is authorized to enter a permit space.

**Blanking or Blinding** means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore, and is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

**Double Block and Bleed** means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves, and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

**Emergency** means any occurrence (including any failure of hazard control or monitoring equipment) or event, internal or external, to the permit space that could endanger entrants.

**Engulfment** means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system, or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

**Entry** means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

**Entry Permit (*PERMIT*)** means the document that is prepared to allow and control entry into a permit space and that contains the below listed information:

- a. The permit space to be entered.
- b. The purpose of the entry.
- c. The date and authorized duration of the entry permit.
- d. The authorized entrants listed in a manner that will allow the attendant to determine, for the duration of the permit, quickly and accurately which entrants are inside the confined space.
- e. The names of personnel currently serving as attendants.
- f. The name of the individual serving as entry supervisor, with a space for the signature or initials of the entry supervisor who originally authorized entry.
- g. The hazards of the permit space to be entered.
- h. The measures used to isolate the permit space and to eliminate or control permit space hazards before entry, i.e., lockout or tagging of equipment, as well as procedures for purging, inerting, ventilating, and flushing permit spaces.

- i. The acceptable conditions.
- j. The results of initial and periodic tests accompanied by the names or initials of the testers and by an indication of when the tests were performed. Permit space conditions will be evaluated as follows:
  - 1. Testing of conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin. If isolation of the space is not feasible because the space is large or is part of a continuous system (such as a sewer), pre-entry testing will be performed to the extent feasible before entry is authorized. If entry is authorized, entry conditions will be continuously monitored in the areas where Authorized Entrants are working.
  - 2. Testing and/or monitoring the permit space as necessary to determine if acceptable entry conditions are being maintained during the course of entry operations.
  - 3. Testing for atmospheric conditions will be conducted in this order: 1) oxygen; 2) combustible gases and vapors; and 3) toxic gases and vapors.

**Entry Supervisor** means the person responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required.

**Hazardous Atmosphere** means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (i.e., escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

- a. Flammable gas, vapor, or mist in excess of 10% of its lower flammable limit.
- b. Airborne combustible dust at a concentration that meets or exceeds its lower flammable limit.
- c. Atmosphere oxygen concentration below 19.5% or above 23.5%.
- d. Atmospheric concentration of any substance for which a dose or permissible exposure limit is published in 29 CFR 1910 Subpart G, Occupational Health and Environmental Control, or 29 CFR 1910 Subpart Z, Toxic and Hazardous Substances, and which could result in employee exposure in excess of its dose or permissible exposure limit.
- e. Any other atmospheric condition that is immediately dangerous to life or health.

**Hot Work Permit** means the written authorization to perform operations capable of providing a source of ignition, i.e., riveting, welding, cutting, burning, and heating.

**Immediately Dangerous to Life or Health (IDLH)** means any condition that poses an immediate or delayed threat to life, causes irreversible adverse health effects, or interferes with an individual's ability to escape unaided from a permit space.

**Inerting** means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

**Note:** This procedure produces an IDLH oxygen-deficient atmosphere.

**Isolation** means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of line, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

**LFL** means lower flammable limit.

**Line Breaking** means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

**Non-Permit Confined Space** means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

**Oxygen Deficient Atmosphere** means an atmosphere containing less than 19.5 percent oxygen by volume.

**Oxygen Enriched Atmosphere** means an atmosphere containing more than 23.5 percent oxygen by volume.

**PEL** means Permissible Exposure Limit.

**Permit-Required Confined Space** means a confined space that has one or more of the following characteristics:

- a. Contains or has a potential to contain a hazardous atmosphere.
- b. Contains a material that has the potential for engulfing an entrant.
- c. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section.
- d. Contains any other recognized serious safety or health hazard.

**Permit System** means our written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

**Prohibited Condition** means any conditions in a permit space that is not allowed by the permit during the period when entry is authorized.

**Rescue Service** means the personnel designated to rescue employees from permit spaces.

**Retrieval System** means the equipment (including a retrieval line, chest or full body harness, wristlets if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

**Stratified Atmosphere** means layered atmosphere.

**Testing** means the process by which the hazards confronting entrants of a permit space are identified and evaluated. Testing includes specifying the tests to be performed in the permit space.

## **Workplace Evaluation**

The Entry Supervisor will evaluate the workplace to determine if any spaces are permit-required spaces. Should a permit-required confined space(s) be identified, all exposed employees will be informed of the location and danger by posting a sign that reads:

### **DANGER-PERMIT-REQUIRED CONFINED SPACE**

#### **DO NOT ENTER**

Personnel are not allowed in the Permit-Required Confined Space except under the provisions of this Program. The above sign will remain in place unless the space is re-evaluated and re-designated a non-permit confined space. Reevaluations of confined spaces will be made if changes have occurred or employees or their representative request a reevaluation.

By the same token, non-permit confined space(s) will be re-evaluated as configurations, uses, and changes in hazards are identified, and, if necessary, re-classified as a permit-required confined space.

This program will be used for all Permit-Space Entry by our employees.

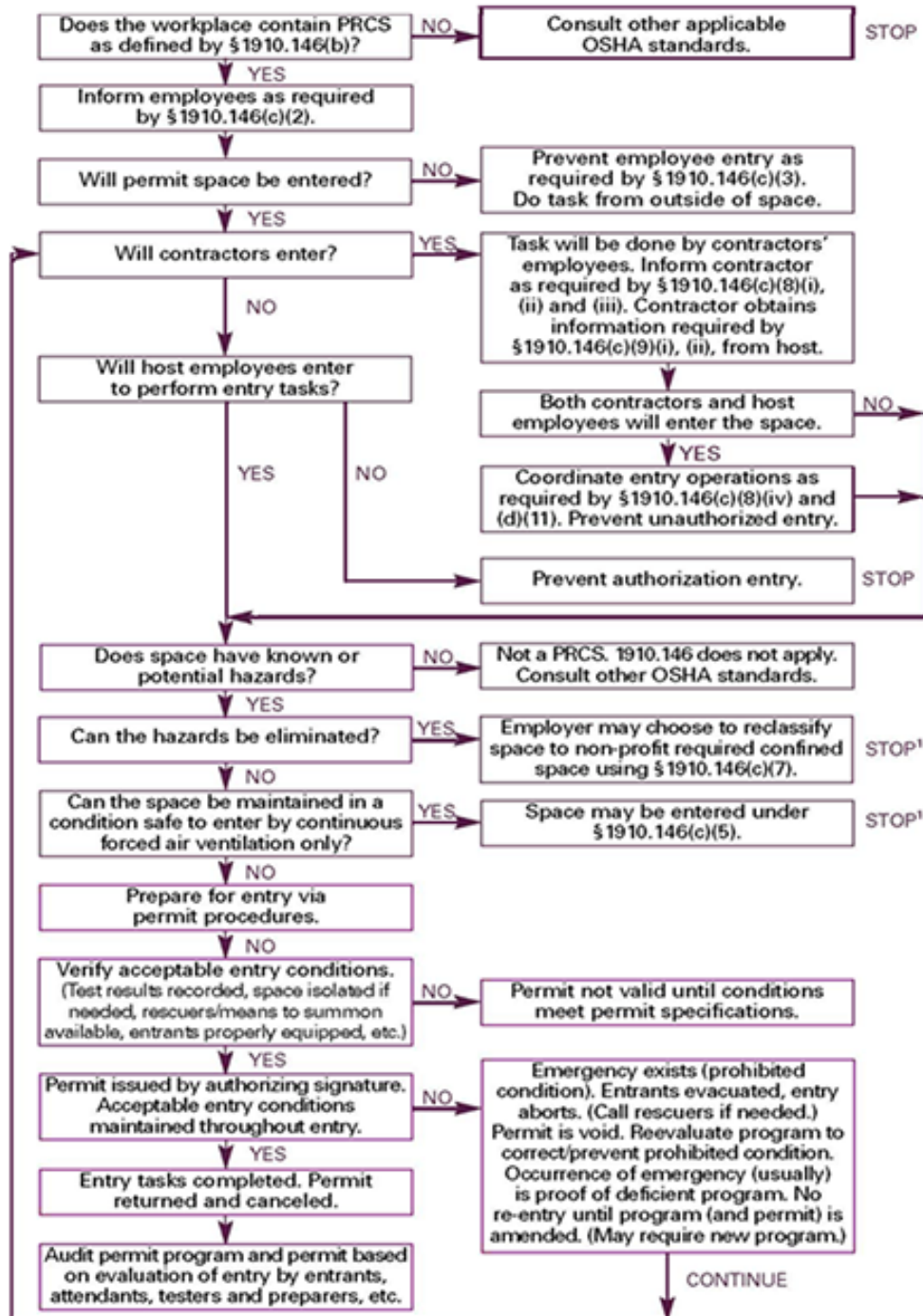
#### **Procedures for Coordinating Entry Operations for Multi-Employers:**

The procedures for coordinating entry operations for multi-employers so that employees of one employer do not endanger the employees of another employer are as follows:

- a. All employees of every employer who are not involved with the confined space entry will be kept clear of the confined space by signage and the Entry Supervisor.
- b. An Entry Supervisor and Attendant will be designated, in writing, as the Senior Entry Supervisor and Senior Attendant, who have authority over all entrants regardless of company for whom they work.
- c. All persons involved with the confined space entry will be involved in preparing a Job Task Analysis with emphasis on reasons the space is designated a (permit-required) confined space; the specific tasks each employee will be performing in the confined space; special precautions to be taken to protect employees of one employer from hazards created by employees of another; specific hazards and experiences with the confined space; and a review of rescue procedures.
- d. Actual entry will be made following our entry procedures.

A decision flow chart will be used to identify permit-required confined spaces and proper procedures to be followed.

The below flow chart is from 29 CFR 1910.146, Appendix A:



As a general policy, no employee will enter any confined space, permit -required or not, unless entry is dictated by work assignment. Entry of permit-required confined spaces will be made under the provisions of this Program.

## **Standard Procedures for Permit-Required Confined Space Entry**

### **Measures to Prevent Unauthorized Entry**

Unauthorized entry will be prevented by:

- a. Posting of the below sign:

**DANGER--PERMIT-REQUIRED CONFINED SPACE  
DO NOT ENTER**

- b. Posting of Attendants outside the permit-required confined space to ensure that unauthorized personnel are not allowed in.
- c. Ensuring that the Entry Supervisor is aware of his authority, under 29 CFR 1910.146(j)(5), to remove unauthorized individuals who enter or attempt to enter the permit space during entry operations.
- d. Ensuring the Authorized Entrants are aware of the provisions of 29 CFR 1910.146(h)(5)(iii) which requires an immediate evacuation in the event of the detection of a prohibited condition. An unauthorized entrant is a prohibited condition.

A roster system which allows the Attendant to keep track of the Authorized Entrants within the permit space will be used. The times in and out are recorded. This system accomplishes two major safety goals and one time-management goal:

- a. Identifies who is actually in the permit-required space.
- b. Records the time of exposure to the hazardous condition(s).
- c. Documents the time required for accomplishing the assigned task.

### **Atmospheric Testing**

**Note:** Entrants, or their representatives, will have the opportunity to observe the pre-entry atmospheric testing as well as any periodic testing that may be deemed necessary for employee safety. Employees or their representative may request additional air monitoring at any time.

Atmospheric testing is required for two (2) distinct purposes: evaluation of the hazards of the permit space and verification that acceptable conditions exist for entry into that space.

- a. Evaluation testing - The atmosphere of a confined space should be analyzed using equipment of sufficient sensitivity and specificity to identify and evaluate any hazardous atmospheres existing or arising so that appropriate permit entry procedures can be developed and acceptable entry conditions stipulated for that space. Evaluation and interpretation of these data and development of the entry procedure should be reviewed by a technically qualified professional (e.g., OSHA consultation service, certified industrial hygienist, registered safety engineer, or certified safety professional) based on evaluation of all serious hazards.
- b. Verification testing - The atmosphere of a permit space which may contain a hazardous atmosphere should be tested for residues of all contaminants identified by evaluation testing using permit specified equipment to determine that residual concentration at the time of testing and entry are within the range of acceptable entry conditions. Testing order should be oxygen, flammables, and then toxics. Results of testing (i.e., actual concentration) should be recorded on the permit in the space provided adjacent to the stipulated acceptable entry condition.

## **Duration of Testing**

Measurement of values for each atmospheric parameter should be made for at least the minimum response time of the test instrument specified by the manufacturer.

## **Testing Stratified (Layered) Atmospheres**

When monitoring for entries involving a descent into atmospheres which may be stratified, the atmospheric envelope should be tested at a distance of approximately four (4) feet in the direction of travel and to each side. If a sampling probe is used, the entrant's rate of progress should be slowed to accommodate the sampling speed and detector response.

Periodic re-testing will verify the atmosphere remains within acceptable entry conditions.

## **Procedures and Practices for Permit Space Entry**

The confined space will be evaluated to determine if, in fact, it is a Permit-Required Confined Space. The decision process will be aided by using the Permit-Required Confined Space Decision Flow Chart. The Entry Supervisor will make this determination.

Questions to be answered in the decision-making process includes:

- a. Does the atmosphere have an oxygen content of between 19.5% & 23.0% by volume?
- b. Does the atmosphere contain or have a potential to contain a hazardous atmosphere?
- c. Does the confined space contain a material with a potential for engulfing the entrant?
- d. Does the confined space have an internal configuration capable of entrapping or asphyxiating the entrant?
- e. Does the confined space contain any other recognized hazards?

Once it has been determined that the procedures for Permit-Required Confined Space operations will be implemented, the following actions will be taken:

- a. The space will be secured and isolated to prevent non-authorized entry. Barriers, or some other protection as dictated by circumstance, will be erected or installed to protect entrants from external hazards such as pedestrians, vehicles, falling objects, etc.
- b. The Pre-Entry Check List will be prepared.
- c. A check will be made of the records of all personnel involved with the operations to insure they have had appropriate training for the hazards involved. Safety Data Sheets will be made available.
- d. Before entry, a comprehensive rescue plan will be written, and a check of the rescue team's qualifications will be made.
- e. All feasible engineering controls will be implemented. The atmosphere will be purged, ventilated, inserted, and/or flushed to control or eliminate the hazardous atmosphere.

- f. Before entry, all personnel involved will review the Pre-Entry Check List and have a complete understanding of what the operations are to accomplish, the safety measures available, and the rescue plan.
- g. All available data will be sought from our client concerning the space including its history, its hazards, their experience with the space and, if applicable, problems encountered. At the completion of the project, all information pertinent to the confined space operation will be provided to the client. Coordination of work and the assignment of one (1) Senior Attendant will be made.

Throughout the duration of an authorized entry into a permit confined space, conditions will be continually verified for acceptability.

After all measures listed above are met: training; testing; identification of hazards; evaluation; specifying acceptable entry conditions; controlling the atmospheric hazards and other identified hazards through engineering controls, such as forced air ventilation, isolation, and control of hazardous energy (lockout/tagout); preparing a rescue plan; barricading; equipping the appropriate employees with personal protective gear and notifying them of all hazards involved with the entry, etc., the Entry Permit will be issued and signed by the Entry Supervisor.

The duration of the Entry Permit may not exceed the time required to complete the assigned task identified on the permit and will be terminated:

- a. When the assigned task is completed.
- b. When a condition that is not allowed under the entry permit arises in or near the permit space.

During Permit-Required Confined Space entry, employees will be provided, at no cost, the following:

- a. Testing and monitoring equipment to test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin and, if acceptable conditions exist, to continually monitor conditions during the entry process to ensure that acceptable conditions are maintained.
- b. Ventilating equipment, if required, to maintain acceptable atmospheric conditions.
- c. Communications equipment, or a method of communicating, between the entrant(s) and the Attendant.
- d. Personal protective equipment should feasible engineering controls not adequately protect the entrants.
- e. Adequate lighting to provide safe working conditions and enhance the ability of entrants to safely and quickly evacuate the permit-required confined space in an emergency.
- f. Required equipment, such as ladders, for safe entry and exit for the Authorized Entrants.
- g. Rescue equipment, such as wristlets, life lines, and harnesses to extricate entrants in the event of an emergency. The Emergency Rescue Plan will be implemented so that rescue personnel are either on call or on station with adequate medical resources.

## **Rescue and Emergency Services Plan**

One of the most important elements of any Permit-Required Confined Space Program is the Rescue and Emergency Services Plan. There will be, as a matter of policy, at least one Attendant for each applicable confined space. Regardless of the emergency, if only one Attendant is on duty, he will not enter a Permit-Required Confined Space to attempt a rescue until replaced by a second Attendant as required by 29 CFR 1910.146 (i)(4).

Should an employee be assigned to be a member of a Rescue Team, that employee must have had documented training in:

- a. Proper use of personal protective equipment and rescue equipment.
- b. The same training as required of the entrant.
- c. A simulated rescue within at least twelve (12) months in the same type of confined space (i.e., representative space of the same general dimensions, opening size, hazard type, and accessibility.)

At least one member of the Rescue Team must be trained and certified in basic first aid and cardiopulmonary resuscitation (CPR) and that documentation will be on file. This person must also have training in bloodborne pathogens and exposure control.

The attendant will ensure that only authorized rescue personnel identified on the entry permit be allowed to attempt a rescue.

The Attendant will notify the rescue service before permit-required confined space entry is made to coordinate a possible rescue. The rescue service will be informed of the exact location of the project, the hazards involved, the number of entrants, the types of protective equipment worn by the entrants, etc. If needed, a practice rescue will be accomplished. If a rescue effort is required, the attendant will call the rescue service immediately by phone.

If the entry involves a possible IDLH situation, the rescue service will be on-site while work is being performed.

Non-entry rescue will be used by retrieval systems, where possible, in lieu of actual entry unless the retrieval system would contribute to the overall risk of the entrant.

Retrieval systems to be considered include:

- a. A chest or full body harness with a retrieval line attached at the center of the entrant's back near shoulder level.
- b. Wristlets if they create a lesser danger to the entrant than the above.
- c. A retrieval line attached to a mechanical lifting (pulling) device fixed to an anchorage outside the permit space.

Should a potential rescue be required to retrieve an entrant from a five (5) foot vertical drop, a mechanical retrieval device will be employed.

The Attendant will have on site the SDS for all chemical substances to which the entrant will be exposed. The emergency responders as well as the treating hospital will be provided this information.

The rescue procedure to be used will be noted on the Entry Permit before entry.

## **Confined Space Entry Using Forced Air Ventilation**

### **For Control of Hazardous Atmosphere**

(NO OTHER HAZARDS ARE IDENTIFIED)

IF it can be demonstrated that the only hazard posed by the permit space is an actual or potential hazardous atmosphere; and

IF it can be demonstrated that continuous forced air ventilation alone is sufficient to maintain that permit space safe for entry; and

IF monitoring and inspection data supports the above; and

IF the initial entry of the permit space is necessary to obtain the above data, it is carried out by the complete Permit-Required Confined Space Program; and

IF the determinations and supporting data for the above are documented and made available to each employee who enter the permit space; then

ENTRY may be made provided:

THAT any conditions making it unsafe to remove an entrance cover have been eliminated before the cover is removed; and

THAT when the entrance covers are removed, the openings will be promptly guarded by a railing, temporary cover, or other temporary barrier preventing an accidental fall through the opening, and protecting each employee working in the space from foreign objects entering the space; and

THAT before entering the space, the internal atmosphere will be tested, with a calibrated direct-reading instrument, for the following conditions in the order given:

- a. Oxygen content
- b. Flammable gasses and vapors
- c. Potential toxic air contaminants, and

THAT there be no hazardous atmosphere within the space whenever any employee is inside the space, and

THAT continuous forced air ventilation will be used, as follows:

- a. No employee may enter the space until the forced air ventilation has eliminated any hazardous atmosphere; and
- b. The forced air ventilation will be so directed as to ventilate the immediate areas where an employee is or will be present within the space and will continue until all employees have left the space; and
- c. The air supply for the forced air ventilation will be from a clean source and may not increase the hazards in the space; and

THAT the atmosphere within the space will be periodically tested as necessary to ensure that the continuous forced air ventilation is preventing the accumulation of a hazardous atmosphere; and

THAT if a hazardous atmosphere is detected during entry:

- a. Each employee will leave the space immediately; and
- b. The space will be evaluated to determine how the hazardous atmosphere developed; and
- c. Measures will be implemented to protect employees from the hazardous atmosphere before any subsequent entry takes place; and

THAT all the above is verified with a written certification that contains the date, location of the space, and the signature of the person providing the certification before entry and made available to each employee entering the space.

THEN, per 29 CFR 1910.146(c)(5)(i) & (c)(5)(ii), we may use an alternate procedure for Confined Space Entry which does not require compliance with the following provisions of 29 CFR 1910.146:

- a. Permit-Required Confined Space Program
- b. Permit System
- c. Entry Permit
- d. Duties of Authorized Entrants
- e. Duties of Attendants
- f. Duties of Entry Supervisors
- g. Rescue and Emergency Services

In spite of the above, this type of confined space is still a Permit-Required Confined Space. We are only talking about authorized entry here. Remember, when the forced air ventilation has been removed, the hazardous atmosphere will return.

At first glance, this may seem like a way to avoid much of the paperwork and compliance requirements. To a small degree, it is. However, the confined space which falls under these provisions of the OSHA standard do require documented evaluation, training of employees, barricading of the area, a plan for emergency contingencies, and record keeping. Adherence to all applicable safety standards and practices must be maintained.

This is an alternate set of procedures which may or may not be used. If they are used, all employees should be aware that their safety is first and foremost and that provisions of 29 CFR 1910 (5)(c)(i) & (5)(c)(ii) will be adhered to. Specifically, what we are dealing with is a space with only one hazardous condition (atmosphere) before any action (i.e., forced air ventilation) is taken. Before entry is made, the hazardous atmosphere is made acceptable through continuous forced air ventilation, and the safety of the atmosphere is periodically checked to ensure that the atmosphere remains safe whenever an employee is within the space in question.

## Training

Training will be given to all employees whose work is regulated by this plan. Training will be conducted prior to initial assignment, prior to a change in assigned duties, and, if a new hazard has been created or special deviations have occurred, training will be given to address these changes and or deviations. Training will ensure that these persons have the knowledge and skills necessary for the safe accomplishment of their assigned jobs with a confined space. Training will include the duties and responsibilities of each Permit-Required Confined Space position: Authorized Entrant, Attendant, Entry Supervisor, and Rescue Team Member.

Training will be documented and certified with the trainee's name and signature; the trainer's name and signature; and the date of the training. This certification will be available for inspection by the employees and their authorized representatives.

Training will be accomplished before any assignment involving permit-required confined space operations & when there is a change in assigned duties. Further training will be given at the introduction of a new hazard for which the employee has not been trained. Should actual job experience indicate a lack of knowledge or proficiency, training will be re-accomplished.

Training for the various Permit-Required Confined Space job positions is noted below.

### **Authorized Entrants:**

Authorized Entrants will be trained in:

- a. An awareness of the hazards that may be encountered during entry, including: information on the mode, signs or symptoms, & consequences of the exposure.
- b. Proper use of monitoring equipment, ventilation equipment, communications equipment, personal protective equipment, lighting equipment, rescue equipment, entry and egress equipment, barriers to protect entrants from external hazards, and other equipment necessary for safe entry into and rescue from permit spaces.
- c. The skills necessary to communicate with the Attendant should a reason for evacuation be present.
- d. The requirement to alert the Attendant whenever:
  1. The entrant notices a warning sign or symptom of exposure to a dangerous situation. An example of this may be a tingling of the skin, dizziness, or a headache. Consult the SDS for information on specific chemical hazards.
  2. A prohibited condition is detected.
- e. Exit procedures which include the need to exit the permit space as quickly as possible whenever:
  1. An order to evacuate is given by the Attendant or the Entry Supervisor.
  2. The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.
  3. A prohibited condition is recognized.
  4. An evacuation alarm is activated.

## **Attendants:**

Attendants will be trained in:

- a. An awareness of the hazards that may be encountered during entry, including the mode, signs or symptoms, and consequences of the exposure.
- b. An awareness of possible behavioral effects of hazard exposure in Authorized Entrants.
- c. The method used to continuously maintain an accurate count of Authorized Entrants in the permit space and the use of a roster on the entry permit to readily identify who is in the permit space.
- d. The requirement that, while an external rescue attempt may be attempted (such as the use of an external retrieval system), they may not attempt to enter a permit-required confined space to attempt a rescue under any circumstances unless:
  1. They are relieved by a second Attendant.
  2. They are thoroughly trained and certified in appropriate rescue techniques as required by the Rescue and Emergency Services Plan of this Program.
- e. Communication procedures, as necessary, with Authorized Entrants to monitor entrant status and alert entrants of the need to evacuate if one of the following conditions presents itself:
  1. A prohibited condition is detected by the Attendant.
  2. The Attendant detects the behavioral effects of hazard exposure in an Authorized Entrant.
  3. The Attendant detects a situation outside the space that could endanger the Authorized Entrants.
  4. The Attendant realizes that he/she cannot perform all the required duties of this Plan.
- f. The procedures to summon rescue and other emergency services as soon as the Attendant determines that Authorized Entrants need assistance to escape from permit space hazards.
- g. Taking the following steps when unauthorized persons approach or enter a permit space while entry is underway:
  1. Warn the unauthorized persons that they must stay away from the permit space.
  2. Advise the unauthorized persons they must exit immediately if they have entered the permit space.
  3. Inform the Authorized Entrants and the Entry Supervisor if unauthorized persons have entered the permit space.
- h. The procedures for safe non-entry rescues as specified by our rescue procedure.
- i. An awareness that no duties may be performed which might interfere with the Attendant's primary duty to monitor and protect the Authorized Entrants. The Attendant must remain outside the Permit Space during entry operations until relieved by another Attendant.

### **Entry Supervisor:**

The Entry Supervisor will be trained in:

- a. An awareness of the hazards that may be encountered during entry including information of the mode, signs, symptoms, and consequences of the hazard exposure.
- b. Verification procedures, especially checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted, and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.
- c. Termination procedures. Operations will terminate when:
  1. The entry operations covered by the entry permit have been completed, or
  2. A condition arises in or near the permit space that is not allowed.
- d. Verifying that rescue services are available and that means for summoning them are operational.
- e. An awareness that unauthorized personnel who enter or attempt to enter the permit space must be removed.
- f. Maintaining entry operations consistent with the terms of the entry permit. Whenever responsibility for a permit space entry operation is transferred, and at intervals dictated by the hazards and operations performed within the space, the entry operations must remain consistent with the terms of the entry permit and acceptable entry conditions must be maintained.

### **Rescue and Emergency Services:**

Rescue and Emergency Services (Teams and/or Personnel) will be trained and knowledgeable in all areas applicable to Authorized Entrants as well as:

- a. The use of personal protective equipment and rescue equipment.
- b. Rescue duties consistent with the permit space involved and the identified hazards or potential hazards.
- c. First aid -- at least one (1) member of a rescue team will be certified in basic first aid and CPR.

Assigned rescue personnel must complete permit space simulated rescues at least once every twelve (12) months from representative permit spaces similar to the permit space in question with regard to size, configuration, hazards involved, accessibility, and opening size.

## Review of Program

Canceled entry permits will be retained for at least one (1) year to facilitate the review of the permit-required confined space program. Any problems encountered during an entry operation will be noted on the appropriate permit so this program may be revised to correct deficiencies before subsequent entries are authorized.

This Permit-Required Confined Space Program will be reviewed and altered, if appropriate, at the following times:

- a. When there is reason to believe the measures taken under this program may not protect employees such as: unauthorized entry; detection of a permit space hazard not covered by the permit; occurrence of an injury or near injury; change in the use or configuration of a permit space; or employee complaints about the effectiveness of this Program.
- b. Within one year of each entry to ensure employees participating in entry operations are protected from permit space hazards.

**Note:** A single review may be conducted covering all entries during a twelve (12) month period.

## Re-Designation of Confined Spaces

Confined spaces will be reevaluated and re-designated as appropriate. If all hazards, both atmospheric and non-atmospheric, are eliminated from a confined space, it will be re-classified as a Non-Permit Confined Space. This will be accomplished provided that actual and potential hazards are eliminated.

By the same token, should a space that is classified a Non-Permit Confined Space be found to have a hazard, it will be reclassified as a Permit-Required Confined Space.

Should a Non-Permit Confined Space, by virtue of altered configuration, use, addition, or identification of hazards become a Permit-Required Confined Space, its designation will change accordingly.

A confined space is one of the following:

- a. A non-permit confined space not falling under the Confined Space standards.
- b. A confined space whose one and only hazard is atmospheric and can be controlled by forced air ventilation. The Pre-Entry Check List provides this information.
- c. A permit-required confined space; all hazards must be identified. The Pre-Entry Check List and Entry Permit provide this information.

Controlling and eliminating hazards are two distinct concepts. Controlling an atmosphere to make it acceptable (i.e., forced air ventilation) does not eliminate the hazard. Stop the forced air ventilation, and the hazard returns.

## Summary

All employees who, by virtue of their work assignments, fall under the provisions of this standard should have a comprehensive understanding of confined spaces and the potential dangers involved when working in them. Certain items cannot be overemphasized; safety is so important. Most accidents are sudden and unexpected. It is much wiser to plan ahead for possible courses of action in response to potential danger than wait until an accident happens and find, for example, there is no external retrieval system or method of summoning qualified medical response.

Some of the provisions of this program may, on first review, seem unnecessary and/or harsh. One item is the requirement forbidding the Attendant trained in rescue, CPR, and First Aid, and having the proper safety equipment on site to enter a Permit-Required Confined Space to rescue a fellow worker until he/she is replaced by another Attendant. Another item is the requirement to evacuate the Permit-Required Confined Space immediately at the first sign of a problem.

An explanation of these two items might help to clarify the importance of the whole program.

In the first case, the worker has succumbed to a hazard in a Permit-Required Confined Space. The following information is assumed: the Authorized Entrant entered the space in question after the Pre-Entry Check List and Permit were issued; he/she is aware of the dangers and trained and qualified for entry; he/she has all the required personal protective gear and it is properly worn and functioning. The worker is down! The Attendant would, at the time of the emergency, have no additional information. Therefore, whatever hazard fell the first worker would certainly fall the Attendant, if the Attendant were to enter the space. No one would know there are now two people to rescue. Even if they did, by the time the Emergency Response Team arrived, they would now be dealing with two people instead of one. The time lost could be critical to the survival of the Authorized Entrant and to the unwitting Attendant who, while trying to save his friend, actually put his life at greater risk.

Let's analyze the second case concerning immediate evacuation. Suppose you are in a smoke-free environment such as an office, a house, or room and someone lights a cigarette. Even a smoker can detect the odor in a few moments. This gives an indication of how fast the gases in an atmosphere mix even at room temperature (it would be faster at higher temperatures). Immediate evacuation means just that – immediate. If an Authorized Entrant has just a few seconds to complete a work assignment in a permit-required confined space and is told by the Attendant to evacuate; a warning sign or symptom of exposure is noticed; a prohibited condition is observed; or an evacuation alarm is activated, the entrant must stop work at once and evacuate. Time is of the essence – hazardous atmospheres may spread quickly. Other hazards (such as engulfment) can happen instantly with little or no warning. It is much easier to re-assess a situation and re-group from outside the permit-required confined space.

**TINC**  
**TINC HQ**  
**Emergency Phone Numbers**  
**(To be accessible to attendant)**

Main Office: 833-879-8462

Police: 911 [\_\_\_\_\_]   
(If no 911 Service Available)

Fire: 911 [\_\_\_\_\_]   
(If no 911 Service Available)

Ambulance: 911 [\_\_\_\_\_]   
(If no 911 Service Available)

Hospital Name:

EMERGENCY RESCUE SERVICE

NAME: \_\_\_\_\_

PHONE: \_\_\_\_\_

Eric Rogers  
Safety Director

Work: 833-879-8462

Cell: \_\_\_\_\_

OTHER:

\_\_\_\_\_  
(Name/Title)

\_\_\_\_\_  
(Name/Title)

\_\_\_\_\_  
(Name/Title)

\_\_\_\_\_  
(Name/Title)

Work: \_\_\_\_\_

Cell: \_\_\_\_\_

Work: \_\_\_\_\_

Cell: \_\_\_\_\_

Work: \_\_\_\_\_

Cell: \_\_\_\_\_

Work: \_\_\_\_\_

Cell: \_\_\_\_\_

When calling for EMERGENCY RESPONSE, this location is:

**TINC**  
**TINC HQ**

**Permit-Space Information & Attendant Designation**

CONFINED SPACE

DATE: \_\_\_\_\_

SPACE IDENTIFICATION: \_\_\_\_\_

SPACE LOCATION: \_\_\_\_\_

CLIENT: \_\_\_\_\_

1. Reasons the above confined space is designated a Permit-Required Confined Space:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Special precautions taken to protect personnel in or around the above space:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Specific hazards and experience with the above confined space:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CLIENT UNDERSTANDING**

I, \_\_\_\_\_, have been provided the above  
(Client Representative)

information and understand that permit space entry is allowed only through compliance with a Permit Space Program meeting the requirements of 29 CFR 1910.146.

In the event our employees and your company's employees are working near or in the same Permit-Required Confined Space, the below listed person is designated as the one and only Senior Attendant. The person, listed below, will have authority over other Attendants.

\_\_\_\_\_  
(Designated Senior Attendant)

\_\_\_\_\_  
(Client Representative Signature/Title)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
Eric Rogers

Safety Director

\_\_\_\_\_  
(Date)

[A copy of this form will be kept at the facility during all operations.]

**TINC**  
**TINC HQ**  
**Entry Roster**

CONFINED SPACE

DATE: \_\_\_\_\_

SPACE IDENTIFICATION  
SPACE LOCATION:

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AUTHORIZED ENTRANT	TIME <u>IN</u>	TIME <u>OUT</u>	TIME <u>IN</u>	TIME <u>OUT</u>	TIME <u>IN</u>	TIME <u>OUT</u>	TIME <u>IN</u>	TIME <u>OUT</u>
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

**TINC**  
**TINC HQ**  
**Entry Permit**

**Permit-Required Confined Space**

**Note: This Entry Permit must be used with the attached Pre-Entry Checklist.**  
**Additional pages may be added as necessary.**

PERMIT VALID FOR \_\_\_\_\_ HOURS

CONFINED SPACE-HAZARDOUS AREA: \_\_\_\_\_

CONFINED SPACE IDENTIFICATION: \_\_\_\_\_ START  
DATE: \_\_\_\_\_

SPACE LOCATION: \_\_\_\_\_ TIME: \_\_\_\_\_

PURPOSE OF ENTRY: \_\_\_\_\_

SUPERVISOR(S) in charge of crew:

\_\_\_\_\_  
\_\_\_\_\_

AUTHORIZED ATTENDANTS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ATMOSPHERE (GAS) TESTER'S SIGNATURE & INITIALS: \_\_\_\_\_

ATMOSPHERE TESTING EQUIPMENT USED:

\_\_\_\_\_  
(Type) (Model and/or Serial Number) (Calibration date)

\_\_\_\_\_  
(Type) (Model and/or Serial Number) (Calibration date)

\_\_\_\_\_  
(Type) (Model and/or Serial Number) (Calibration date)

\_\_\_\_\_  
(Signature of Entry Supervisor/Date)

\_\_\_\_\_  
(Signature of Matt Melander/Date)

**REVIEWED BY: (Confined Space Operations Personnel)**

**Note: The below listed persons, or their representative, have had the opportunity to observe the pre-entry atmospheric testing as well as any periodic testing that may be deemed necessary for employee safety.**

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

## Pre-Entry Checklist

This checklist is an integral part of our Permit System and **MUST** be maintained with the Entry Permit.

All items on the Pre-Entry Checklist must be completed before entry, for items that do not apply enter N/A.

### Initial Atmospheric Check (before ventilation)

Date: _____	Time: _____	Acceptable Parameters	Tester's Initials
Oxygen: _____%	_____%	>19.5% <23.5%	_____
Flammable Gases & Vapors Present:			
<u>Name</u>			
1. _____	_____ % LEL	<10.0%	_____
2. _____	_____ % LEL	<10.0%	_____
3. _____	_____ % LEL	<10.0%	_____

### Potential Toxic Air Contaminants:

<u>Name</u>			
1. _____	_____ PPM	< _____ PPM	_____
2. _____	_____ PPM	< _____ PPM	_____
3. _____	_____ PPM	< _____ PPM	_____

Note: mg/m<sup>3</sup> may be substituted for PPM. For further reference see 1910.94.

Method of Isolation (atmospheric conditions): \_\_\_\_\_

Means of Ventilation (to control atmospheric conditions): \_\_\_\_\_

### Atmospheric Check (after ventilation & isolation and immediately prior to initial entry)

Time: _____	Acceptable Parameters	Tester's Initials
Oxygen: _____%	_____%	>19.5% <23.5%
Flammable Gases & Vapors Present:		
<u>Name</u>		
1. _____	_____ % LEL	<10.0%
2. _____	_____ % LEL	<10.0%
3. _____	_____ % LEL	<10.0%

### Potential Toxic Air Contaminants:

<u>Name</u>			
1. _____	_____ PPM	< _____ PPM	_____
2. _____	_____ PPM	< _____ PPM	_____
3. _____	_____ PPM	< _____ PPM	_____

Note: mg/m<sup>3</sup> may be substituted for PPM. For further reference see 1910.94

## OTHER HAZARDS:

(Type, i.e., configuration, engulfment,  
unacceptable atmosphere, any recognized  
serious safety or health hazard)

(Engineering controls to control or eliminate the hazard to the extent feasible.)

(Type, i.e., configuration, engulfment,  
unacceptable atmosphere, any recognized  
serious safety or health hazard)

(Engineering controls to control or eliminate the hazard to the extent feasible.)

(Type, i.e., configuration, engulfment,  
unacceptable atmosphere, any recognized  
serious safety or health hazard)

(Engineering controls to control or eliminate the hazard to the extent feasible.)

(Type, i.e., configuration, engulfment,  
unacceptable atmosphere, any recognized  
serious safety or health hazard)

(Engineering controls to control or eliminate the hazard to the extent feasible.)

(Type, i.e., configuration, engulfment,  
unacceptable atmosphere, any recognized  
serious safety or health hazard)

(Engineering controls to control or eliminate the hazard to the extent feasible.)

## HAZARDS NOT COMPLETELY ELIMINATED BY ENGINEERING CONTROLS AND SAFETY GEAR REQUIRED (i.e., respirators (specific type), special boots, gloves, suits, eye protection, etc.):

(HAZARD)

(SAFETY GEAR)

(HAZARD)

(SAFETY GEAR)

(HAZARD)

(SAFETY GEAR)

## COMMUNICATIONS PROCEDURES:

[NOTE: Acceptable, non-electrical, suggestions include, but are not limited to, predetermined rapping  
sounds, tugs on a rope or line, air horn signals, voice communications]

**BELOW LISTED ITEMS MUST BE COMPLETED AND REVIEWED PRIOR TO ENTRY:**

**NOTE: For items that do not apply, enter N/A.**

<u>REQUIREMENT COMPLETED</u>	<u>DATE</u>	<u>TIME</u>	<u>REQUIREMENT COMPLETED</u>	<u>DATE</u>	<u>TIME</u>
Lock Out/De-energize/Try Out	_____	_____	Full Body Harness w/"D" ring	_____	_____
Lines Broken/Capped/blanked	_____	_____	Emergency Escape Retrieval	_____	_____
Purge-Flush & Vent	_____	_____	Equipment	_____	_____
Ventilation	_____	_____	Lifelines	_____	_____
Secure Area (Post & Flag)	_____	_____	Fire Extinguishers	_____	_____
Breathing Apparatus	_____	_____	Lighting (Explosion Proof)	_____	_____
Resuscitator-Inhalator	_____	_____	Protective Clothing	_____	_____
Standby Safety Personnel	_____	_____	Respirator(s) (Air Purifying)	_____	_____
Hoisting Equipment	_____	_____	Direct reading gas monitor	_____	_____
All electric equipment listed	_____	_____	tested	_____	_____
Class I, Division I, Group D	_____	_____	Non-Sparking Tools	_____	_____
SCBA's for entry & standby	_____	_____	Powered Communications	_____	_____
Other: _____	_____	_____	Burning & Welding Permit	_____	_____
Other: _____	_____	_____	Other: _____	_____	_____

**EMERGENCY AND RESCUE PROCEDURES**

	<b>YES</b>	<b>NO</b>	<b>N/A</b>
Rescue Procedures will be implemented by Company Employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Company Rescue Personnel have had training in:			
a. Use of Personal Protective Equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Use of Rescue Equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Practiced simulated permit space rescue within the past 12 months	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
for a space representative of the space for which this permit is issued.			
Each member of the Rescue Team has had training in basic First Aid and cardiopulmonary resuscitation (CPR) and at least one (1) member is currently certified.			

NAME OF CERTIFIED PERSON (CPR): \_\_\_\_\_

NAME OF CERTIFIED PERSON (1st AID): \_\_\_\_\_

Appropriate Safety Data Sheets, are at the facility.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The retrieval line is affixed to the entrants and a fixed point outside the space or a mechanical device should the space be a vertical type more than five (5) feet deep.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All entrants will wear a chest or full body harness with a retrieval line attached at the center of the entrant's back neat shoulder level, or above the entrant's head.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Entrants will wear wristlets, in lieu of the above, should they create a lesser danger to the entrants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**YES      NO      N/A**

Rescue procedures will be implemented by a rescue service consisting of persons who are not employees.

□ □ □

This rescue service has been provided with:

- a. information on all hazards or potential hazards they may confront.
- b. access to all permit spaces from which rescue may be necessary to enable the rescue service to develop appropriate rescue plans and practice rescue procedures.

□ □ □

□ □ □

**SPECIFIC RESCUE PLAN FOR AN EMERGENCY IN THIS CONFINED SPACE:**

[illegible]

## Record of Continuous Monitoring

**[The results of continuous monitoring, if applicable, are to be recorded below every two (2) hours.]**

[illegible]

**\*8 Hour Time Weighted Average: Employee can work in area 8 hours (longer with appropriate protection).**

**\*\*Short term exposure limit: Employee can work in area up to 15 minutes.**

This six (6) page Entry Permit and Pre-Entry Checklist as been prepared by the Entry Supervisor and reviewed by all personnel involved in this Permit-Required Confined Space Entry Operation.

ENTRY SUPERVISOR: \_\_\_\_\_

(Name) (Signature) (Date)

**TINC**  
**TINC HQ**

**Pre-Entry Checklist Using Forced Air Ventilation pt. 1**  
and  
**Certification of Compliance with 29 CFR 1910.146(c)(5)(ii)**  
for

**Confined Space Entry Using Forced Air Ventilation**  
for Control of Hazardous Atmosphere

**(NO OTHER HAZARDS ARE IDENTIFIED)**

I certify that the below listed confined space falls under the Permit-Required Confined Space Standard, 29 CFR 1910.146(c)(5)(i) & entry will be performed under the provisions of 29 CFR 1910.146(c)(5)(ii).

**CONFINED SPACE IDENTIFICATION:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**SPACE LOCATION:** \_\_\_\_\_ **TIME:** \_\_\_\_\_

**WORK TO BE ACCOMPLISHED IN CONFINED SPACE:** \_\_\_\_\_

**PRE ENTRY CHECKLIST**

**INITIAL ATMOSPHERIC CHECK (BEFORE VENTILATION):** TIME: \_\_\_\_\_

**Acceptable Parameters**

**Oxygen:** \_\_\_\_\_ % \_\_\_\_\_ % **> 19.5 % < 23.5 %**

**Flammable gases and vapors:**

\_\_\_\_\_ : \_\_\_\_\_ % LEL **< 10.0 %**

(NAME)

\_\_\_\_\_ : \_\_\_\_\_ % LEL **< 10.0 %**

(NAME)

\_\_\_\_\_ : \_\_\_\_\_ % LEL **< 10.0 %**

(NAME)

**Potential toxic air contaminants:**

\_\_\_\_\_ : \_\_\_\_\_ PPM **< \_\_\_\_\_ PPM**

(NAME)

\_\_\_\_\_ : \_\_\_\_\_ PPM **< \_\_\_\_\_ PPM**

(NAME)

\_\_\_\_\_ : \_\_\_\_\_ PPM **< \_\_\_\_\_ PPM**

(NAME)

**NOTE:** mg/m<sup>3</sup> may be substituted for PPM. See Table Z-1 to Z-3, Subpart Z 29 CFR 1910. Reference Subpart G, 29 CFR 1910.

**METHOD OF ISOLATION:** \_\_\_\_\_

\_\_\_\_\_

**MEANS OF VENTILATION:** \_\_\_\_\_

\_\_\_\_\_

ATMOSPHERIC CHECK (AFTER VENTILATION & ISOLATION): TIME: \_\_\_\_\_

Acceptable Parameters

Oxygen: \_\_\_\_\_ % \_\_\_\_\_ % > 19.5 % < 23.5 %

Flammable gases and vapors:

\_\_\_\_\_: \_\_\_\_\_ % LEL < 10.0 %  
(NAME)

\_\_\_\_\_: \_\_\_\_\_ % LEL < 10.0 %  
(NAME)

\_\_\_\_\_: \_\_\_\_\_ % LEL < 10.0 %  
(NAME)

Potential toxic air contaminants:

\_\_\_\_\_: \_\_\_\_\_ PPM < \_\_\_\_\_ PPM  
(NAME)

\_\_\_\_\_: \_\_\_\_\_ PPM < \_\_\_\_\_ PPM  
(NAME)

\_\_\_\_\_: \_\_\_\_\_ PPM < \_\_\_\_\_ PPM  
(NAME)

NOTE: mg/m<sup>3</sup> may be substituted for PPM. See Table Z-1 to Z-3, Subpart Z 29 CFR 1910. Reference Subpart G, 29 CFR 1910.

PERMIT AND CHECK

LIST PREPARED BY: \_\_\_\_\_  
(Entry Supervisor/Date)

APPROVED BY: \_\_\_\_\_  
(Matt Melander/Date)

REVIEWED BY: (Confined Space Operations Personnel)

NOTE: The below listed persons, or their representative, have had the opportunity to observe the pre-entry atmospheric testing as well as any periodic testing that may be deemed necessary for employee safety.

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

\_\_\_\_\_  
(Print Name) (Signature) (Print Name) (Signature)

THE ATMOSPHERE WITHIN THE SPACE WILL BE PERIODICALLY TESTED AS NECESSARY TO ENSURE THAT THE CONTINUOUS FORCED AIR VENTILATION IS PREVENTING THE ACCUMULATION OF A HAZARDOUS ATMOSPHERE.

IF CONDITIONS ARE IN COMPLIANCE WITH THE ABOVE REQUIREMENTS AND THERE IS NO REASON TO BELIEVE CONDITIONS MAY CHANGE ADVERSELY, THEN PROCEED TO THE PERMIT SPACE PRE-ENTRY CHECK LIST. COMPLETE AND POST WITH THIS FORM. MAINTAIN THIS FORM AND SUPPORTING DOCUMENTATION FOR A PERIOD OF ONE (1) YEAR.

THIS PERMIT AND SUPPORTING DOCUMENTATION WILL BE KEPT AT THE FACILITY. AT COMPLETION OF THE JOB, THIS COPY WILL BE FORWARDED TO Matt Melander.

# TINC TINC HQ

Pre-Entry Checklist Using Forced Air Ventilation pt. 2

For

## Confined Space Entry Using Forced Air Ventilation for Control of Hazardous Atmosphere (NO OTHER HAZARDS ARE IDENTIFIED)

### PART 2

I certify that the below listed confined space falls under the Permit-Required Confined Space Standard, 29 CFR 1910.146(c)(5)(i) & (c)(5)(ii):

#### CONFINED SPACE PRE-ENTRY CHECK LIST

A confined space either is entered through an opening other than a door (such as a manhole or side port) or requires the use of a ladder or rungs to reach the working level. Test results must be satisfactory. This check list must be filled out whenever the workplace meets this criteria.

	YES	NO
1. Did your survey of the surrounding area show it to be free of hazards such as drifting vapors from any source?	<input type="checkbox"/>	<input type="checkbox"/>
2. Does your knowledge of industrial or other discharges indicate this area is likely to remain free of dangerous air contaminants while occupied?	<input type="checkbox"/>	<input type="checkbox"/>
3. Are you certified in the operation of the gas monitor to be used?	<input type="checkbox"/>	<input type="checkbox"/>
4. Has a gas monitor functional test (Bump Test) been performed this shift on the gas monitor to be used?	<input type="checkbox"/>	<input type="checkbox"/>
5. Did you test the atmosphere of the confined space prior to entry?	<input type="checkbox"/>	<input type="checkbox"/>
6. Did the atmosphere check as acceptable (no alarms given)?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will the atmosphere be continuously monitored while the space is occupied?	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: If any of the above questions are answered "NO", DO NOT ENTER. Contact your immediate supervisor.

JOB LOCATION: \_\_\_\_\_ DATE: \_\_\_\_\_

COMPETENT PERSON NAME: \_\_\_\_\_ SHIFT: \_\_\_\_\_

COMPETENT PERSON SIGNATURE/DATE: \_\_\_\_\_

#### EMERGENCY PHONE NUMBERS

LOCAL FIRE DEPARTMENT (RESCUE): \_\_\_\_\_

LOCAL FIRE DEPARTMENT (FIRE): \_\_\_\_\_

ON-SITE EMERGENCY PHONE NUMBER: \_\_\_\_\_

POLICE: \_\_\_\_\_

## **Personal Protective Equipment – General**

[29 CFR 1910.132 - General Requirements](#)

[29 CFR 1910.133 - Eye and Face Protection](#)

[29 CFR 1910.135 - Head Protection](#)

[29 CFR 1910.136 - Occupational Foot Protection](#)

[29 CFR 1910.138 - Hand Protection](#)

### **Overview**

This Personal Protective Equipment (PPE) Program has been prepared to inform our employees of potential hazards at our facility and to identify the proper PPE to be used to reduce or eliminate these hazards. This Program relies on a cooperative effort by all personnel to understand the reasons for PPE and to protect themselves from harm.

The use of PPE does not lessen an employee's obligation to use safe work practices and procedures. Employees are expected to be aware of the hazards within their area of responsibility and properly use prescribed PPE.

Our operations, work methods, and individual facility present specific hazards which must be identified, analyzed, and matched with the appropriate PPE through a continuing hazard assessment process.

A Certificate of Hazard Assessment will be kept at the facility for inspection purposes.

### **Duties of the PPE Program Administrator**

The primary duties of Matt Melander, our Program Administrator include: hazard assessment; PPE selection; PPE training; and monitoring of our PPE Program. Certain types of PPE may require hands-on training before on the job use (primarily for sizing and fitting) and this training may be further delegated to competent persons.

### **Hazard Assessment and PPE Selection**

A careful, systematic personal protective equipment selection process is used to identify what, if any, protection is required to reduce or eliminate the possibility of eye, hand, foot, limb, or head injury.

Hazard assessment, performed by Matt Melander, or a designated competent person, starts with a thorough knowledge of our facility, work procedures, and methods of operation. The basic hazard categories are: impact, penetration, compression, chemical, heat, harmful dust, and light radiation.

Identifying the source of the above hazards allows for consideration of administrative or engineering controls to eliminate the hazard as opposed to providing protection against it. Examples would include: redirecting traffic flow, ventilation, temporary weather barriers, non-slip surfaces, etc.

Because administrative and engineering controls are passive -- no employee involvement is required -- they are preferable to PPE.

A PPE selection is made by analyzing the above information and evaluating the type of risk, the level of risk, the potential for injury and the possible seriousness of that injury. PPE, which is compatible with the above risks and work situation, is considered. Actual selection involves all the above factors plus an attempt to provide a level of protection greater than the minimum required.

In all situations where it has been determined that a particular type of PPE is to be used, it will be used. There will be no exceptions, by virtue of position or rank, to this policy. Within an area at the facility where the possibility of falling objects exists, hard hats will be worn. It follows that once an item of PPE (hard hat, in this case) is selected, it must be used by all persons in the identified area regardless of job title or function.

Having Matt Melander, or designated competent person, at the facility determine the PPE requirements allows for knowledgeable selection and consistency, and eliminates chaos that would result if each individual were to decide when, where, and if PPE should be used.

29 CFR 1910 Subpart I - Appendix B, Non-mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment Selection, provides excellent selection guidelines for eye and face protection, head protection, foot protection, and hand protection.

### **Dissemination of PPE Selection Information**

Employees must understand when PPE is necessary and what type(s) of PPE are necessary.

All persons for whom PPE will provide a measure of safety will be given appropriate training on that item of PPE as well as an explanation of the importance of its use.

### **ANSI Standards and PPE**

Most items of PPE are manufactured in accordance with a specific American National Standards Institute (ANSI) standard. For example, protective eye and face devices purchased after 07/05/94 must comply with ANSI standard ANSI Z87.1-1989, American National Standard Practice for Occupational and Educational Eye and Face Protection; protective helmets purchased after 07/05/94 must comply with ANSI standard ANSI Z89.1-1986, American National Standard for Personnel Protection-Protective Headwear for Industrial Employees-Requirements.

PPE safety products are tested to ensure they meet ANSI standards. Because products are tested in the manner in which they are designed to be used, ANSI certification is valid only if the user follows the manufacturer's instructions for proper sizing, fitting, wearing, and adjusting. A review of OSHA citations reveals that fines can be levied because employees were improperly using PPE. For example, a hard hat worn with the bill toward the rear may provide adequate protection from impact; however, because it is tested with the bill toward the front, this improper use is cause for a safety violation.

PPE will be provided to our employees at no cost to them. Prior to purchase, items of selected PPE will be checked to ensure they were manufactured in accordance with the proper ANSI standard.

The importance of hazard assessment takes on added significance when judgments are made matching the hazard to the protection desired in cases where ANSI certification is not available. What matters most is: does the selected PPE do what it is intended to do?

Employee owned PPE must be approved for use by Matt Melander. Further, such equipment must be properly maintained and cleaned in accordance with the manufacturer's instructions.

## **Sizing and Fitting**

The word “personal” in the phrase “personal protective equipment” correctly implies that the equipment is for a specific person. As such, sizing and fitting are important for a variety of reasons.

- a. Function: An improperly fitted piece of PPE may not do its job. For example, eye protection against dust must have an excellent face seal.
- b. Comfort: The likelihood of continued use is increased if the PPE selected is comfortably fitted. Example: gloves that fit poorly and, over time, make a person’s hands hot and clammy are likely to be removed exposing that person to the hazard for which the gloves were required in the first place.
- c. Safety: Ill-fitting PPE may actually cause an accident. Example: loose hard hat may slip and block one’s vision.

Most PPE come in a variety of sizes and within those size groups, adjustments may be made to affect a perfect fit. It is important to understand the procedures for donning, adjusting, using, and removing PPE. Each person who is required to use any type of PPE will be taught, before initial issue, the specific procedures for properly donning, adjusting, using, and removing the specific PPE. This instruction will generally be given by the employee’s Supervisor. When available, the manufacturer’s instructions will be issued with the PPE.

## **Care and Maintenance of PPE**

PPE will be visually inspected before each use and if defects are noticed, it will not be used. Some types of PPE are expendable (cotton gloves) and have a limited life span after which they are discarded, and new PPE is reissued. Plastic safety glasses become scratched and they too must be exchanged for new ones when vision is impaired. Other types of safety equipment consist of both non-expendable and expendable components. A cartridge respirator is an example of this, with the respirator being non-expendable while the cartridges “wear out” and become expendable (discarded and replaced). PPE will be maintained in accordance with the manufacturer’s instructions and, where appropriate, kept in a sanitary condition.

Cleanliness takes on an added importance when dealing with PPE designed to protect the eyes and face. Dirty or fogged lenses can impair vision and, rather than offer protection from a hazard, actually becomes a contributory factor in causing an accident. Lastly, should PPE become contaminated with a chemical substance and decontamination is impossible, the PPE will be properly disposed of following the disposal instructions on the Safety Data Sheet, or SDS, for that substance.

## **Training**

Affected employees will be given an understanding of:

- a. When PPE is necessary.
- b. What PPE is necessary.
- c. How to properly put on, take off, adjust, and wear PPE.
- d. The limitations of the PPE.
- e. The proper care, maintenance, useful life and disposal of the PPE.

Retraining will be given in situations when changes in PPE requirements render the previous training obsolete or it is noticed that an employee is not following our PPE policies -- specifically, not properly wearing the selected PPE in identified locations or work situations.

## Eye and Face Protection

### 29 CFR 1910.133 - Eye and Face Protection

Your eyes are a marvel of engineering. Most of us take them for granted as we do all our senses, until an accident, injury, or disease forces us to realize the miracle we lost or almost lost. Can you imagine a system that can take (absorb) light and convert it to electrical signals (by way of the 120 million rods and 6 million cones on the retina) and transfer these signals through an optic nerve which has about one million fibers directly into the brain?

Most of us see the world in living color and with depth perception. The body itself does much to protect the eyes. Bony eye sockets in the skull protect the eye from many mechanical injuries. Orbital fluids and tissues cushion direct blows. Eyelids close reflexively from visual or mechanical stimuli. Eyes reflexively rotate upward with the lid closing to protect the cornea. Tears can flush away chemicals and foreign bodies. We all come with these safeguards. Sometimes, they are not enough.

Eye protection is required when there is a possibility of eye injury. Eye injury is not confined to flying objects. Eye injury can be caused by bright light, dust, chemicals, heat, and, literally, anything that can reach them. Different hazards require different types of protection.

Eye (and face) protection is required when one is exposed to flying particles, chemicals, or injurious light radiation. Types of eye protection include: impact resistant safety glasses, safety glasses with side shields, goggles, goggles with a face seal, face masks, and shaded goggles with varying degrees of darkness.

Affected employees who wear prescription lenses will wear eye protection over the prescription lenses without disturbing the proper positioning of the prescription lenses or will wear eye protection that incorporates their prescription into the design.

All prescription glasses should be made with impact-resistant lenses. Hardened lenses, through a tempering process, are extremely hard and resistant to impact and breakage.

Safety lenses are similar to hardened lenses but are 1 mm thicker. Safety lenses are used in goggles where there is a danger of flying glass or chips of metal.

All employees who wear contact lenses must also wear appropriate eye and face protection in hazardous environments.

Welding helmets and face shields, if required, should be worn over primary eye protection (spectacles or goggles).

An inexpensive pair of safety glasses can save your priceless eyesight.

## **Head Protection**

Talking about head protection is really talking about brain protection. Your brain, either through divine providence, evolution, or quirk of nature, is you. The brain, that soft mass of gray and white convoluted matter, is what you are all about. Destroy your brain and you no longer exist.

Your brain is naturally protected by a cranium. Your skull actually has many bones which protect your brain and support your face. Obviously, there are other parts to your head which need protecting such as your eyes, ears, nose, tongue, skin, etc., but your brain is the most important.

Head protection is required when there is a possibility of injury to the head from falling objects and when working near exposed electrical conductors which could contact the head.

Brain injury is the second most common cause of major neurologic deficits and causes more deaths than injury to any other organ.

When the skull receives an impact, it actually can indent and deform. A fracture may occur and the fracture may be distant from the point of impact. A direct blow to the head can cause the brain to actually move within the skull. Surprisingly, there is often a reverse correlation between skull damage and brain damage. Just because there is no external visible injury to the skull does not preclude the possibility of brain injury.

Wearing head protection (a hard hat) accomplishes two major objectives: it reduces the rate of energy transfer and spreads out the area of energy transfer. Just as your head should be checked out at a hospital after a head impact, so should your hard hat. A hard hat can absorb energy by destructing and this destruction may be unnoticeable.

A head injury may occur after a blow to the head and the following symptoms may be present: unconsciousness or disorientation, confusion, nausea, vomiting, and/or double vision. Get medical help immediately. Cover open wounds lightly with sterile dressing. Keep victim still, warm, and reassured. DO NOT move the victim unless he/she would be in greater danger if you did not. DO NOT apply pressure to a head wound. DO NOT try to stop blood or clear fluid coming from ears, nose, or mouth.

## **Foot Protection**

When purchasing new protective footwear, ensure that it complies with ASTM F-2412-2005, "Standard Test Methods for Foot Protection," and ASTM F-2413-2005, "Standard Specification for Performance Requirements for Protective Footwear."

Specific hazards require specific types of protective footwear. Certain types of footwear can offer traction, crush protection, penetration protection, electrical protection, chemical resistance, heat and/or fire resistance, dryness, cushion, or ankle-protection. Further, certain activities may require a combination of these features.

Your foot is a remarkable piece of engineering which is composed of 26 bones, muscles, fatty tissue, nerves, tendons, skin and joints. The foot itself can absorb a tremendous amount of punishment without damage. But there are limits and it would be a shame to lose a foot, or part of a foot, because of failure to wear the prescribed protective footwear.

## **Hand Protection**

Your hand is composed of 20 muscles, 3 major nerves, and 27 bones (14 of which are in your fingers) plus skin, fatty tissue, tendons, and joints. There are 15 muscles in your forearm which provide power to your hand. Your hand is your gateway to the world. It lets you do what you think. Its function is feeling and grasping.

Try to pick up something while holding your thumb still. It is very difficult. If the nerve to the small muscles of the thumb is severed, 80% of the total hand function is lost.

There are numerous types of hand protection (gloves) available -- each with a specific purpose. The most common are general purpose cotton work gloves which provide protection from minor skin abrasions and cold. However, there are many other types of gloves. Hands need protection from chemicals, abrasions, cuts and lacerations, temperature extremes, germs, radiation, impact, punctures, electricity, and other hazards on the facility. Specific job requirements determine the type of hand protection needed. Proper hand protection must do more than protect your hand; it must allow you to accomplish your job assignment with efficiency as well as safety.

Wearing hand protection could prevent your hand and/or fingers from being severed, burned, crushed, punctured, lacerated, cut, or generally abused.

## **Respiratory Protection**

Employees who, by nature of their work, are exposed to harmful aerosols, vapors, gases, contaminated air, or non-breathable air will be provided air purifying or air supplying respirators after training, medical evaluation, and fit testing per our Respiratory Protection Program. The one exception is dust masks worn solely for comfort and not for respiratory protection.

## **Miscellaneous Personal Protection**

PPE immediately brings to mind eye, head, hand, and foot protective equipment. However, there may be other types of protective equipment which are readily available and which have the capability of protecting employees from identified hazards on the facility. Some of these items may not fall under a specific OSHA standard or may not be ANSI approved or disapproved; however, in the judgment of Matt Melander, they may be appropriate for use in our operations.

## **Summary**

The true beneficiary of PPE utilization is the user. The whole thrust of this Program is to protect our employees from injury. This is accomplished by, among other things, explaining the process of hazard assessment, the reasons for PPE use, and the necessity of using the PPE selected.

What possible justification could there be for maiming, losing, or even slightly injuring a body part because available (and required) PPE was not used? "I forgot"; "I was in a hurry"; "I misplaced my PPE"; "I felt silly wearing PPE"; or "I really didn't believe PPE was necessary" will not undo what could be a lifetime of regret.

**TINC**  
**TINC HQ**

**Certificate of Workplace Hazard Assessment**

In accordance with 29 CFR 1910.132(d)(2), I certify that, this date, I have performed a hazard assessment of our facility located at:

68 Tenney Street

Georgetown, MA 01833

833-879-8462

This hazard assessment was performed to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE).

Identified hazards which cannot be eliminated through engineering controls or changes in procedures will be addressed by the use of selected PPE.

All affected employees will be informed of the required PPE for specific work locations or specific types of work to be performed and will receive initial training or retraining, if necessary, before being allowed to perform work requiring PPE.

If conditions or procedures change, a reassessment will be made.

---

Matt Melander

PPE Program Administrator

---

Date

## Personal Protective Equipment - Hearing Conservation

### 29 CFR 1910.95 - Occupational Noise Exposure

#### Overview

This Hearing Conservation Program is designed for one purpose – to prevent hearing damage caused by occupational noise exposure.

Most forms of personal protective equipment (PPE) are a response to an obvious hazard and are easy to understand. A hard hat will protect your head from falling objects, for example.

Hearing protection is different from most other types of PPE because loss of hearing generally occurs painlessly over a period of time and, when finally realized, the damage is permanent.

Because of the above, it is vital that cooperation between all affected employees & management be established to prevent occupational hearing loss. To achieve this goal, our Hearing Conservation Program focuses on the effects of noise on hearing as well as the selection & use of hearing protectors. Information is provided on how sound is transmitted to your brain, & lastly, the actual application of our Hearing Conservation Program.

While our Hearing Conservation Program has all the elements required of a complete safety program, it is not necessary to understand all the technical formulas and procedures that are required of licensed monitors, doctors, and hygienists. Individual employees are required to wear appropriate hearing protection when so directed and to understand the importance of protecting their hearing from damage. If workplace noise bothers you and those noises are below the threshold for required ear protection, you should bring this to the attention of Matt Melander, our Hearing Conservation Program Administrator for resolution.

Wherever it is not feasible to reduce the noise levels or duration of exposures to those specified in Table G-2, below, ear protective devices will be provided and used.

TABLE G-12 - PERMISSIBLE NOISE EXPOSURES	
Sound level	
<u>Duration per day, hours</u>	<u>dBA slow response</u>
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

Hearing damage is caused by noise level and duration of exposure to the noise. If, after using the formula below, the equivalent noise exposure exceeds unity (1), then a Hearing Conservation Program will be initiated.

$F(e) = (T(1) \text{ divided by } L(1)) + (T(2) \text{ divided by } L(2)) + \dots + (T(n) \text{ divided by } L(n))$  where:

$F(e)$  = The equivalent noise exposure factor.

$T$  = The period of noise exposure at any essentially constant level.

$L$  = The duration of the permissible noise exposure at the constant level (from Table G-12).

If the value of  $F(e)$  exceeds unity (1) the exposure exceeds permissible levels.

A sample computation showing an application of the formula in paragraph (d)(2)(ii) of this section is as follows. An employee is exposed at these levels for these periods:

110 db A 1/4 hour.

100 db A 1/2 hour.

90 db A 1 1/2 hours.

$F(e) = (1/4 \text{ divided by } 1/2) + (1/2 \text{ divided by } 2) + (1 \text{ 1/2 divided by } 8)$

$F(e) = 0.500 + 0.25 + 0.188$

$F(e) = 0.938$

Since the value of  $F(e)$  does not exceed unity, the exposure is within permissible limits.

Hearing protection is different from most other types of PPE because loss of hearing generally occurs painlessly over a period of time and, when finally realized, the damage is permanent.

As one would reasonably expect, acoustic trauma to your hearing can cause instant and permanent damage.

The initial determination of excessive noise levels is generally subjective. Indications of excessive noise would include: actual information pertaining to specific machines, personal observation, complaints from employees, and noticed indications of hearing loss. It is requested that employees draw attention to work situations where there is an apparent loudness that possibly requires hearing protection.

### **Duties of the Program Administrator**

The duties of Matt Melander, our Hearing Conservation Program Administrator, include identifying work areas where the equivalent noise exposure factor exceeds unity, determining what types of noise level monitoring may be necessary, and ensuring that all personnel who are directed to wear hearing protection are trained in its proper use, cleaning, and storage.

Matt Melander will also be responsible for recordkeeping, testing, and training. Lastly, Matt Melander will keep abreast of developments in the hearing conservation field and he is encouraged to seek outside professional help when needed.

### **When a Hearing Conservation Program is Required**

The industry standard that deals with occupational noise exposure, 29 CFR 1910.95 - Occupational Noise Exposure, is what this program is based.

Hearing protection will be provided at 85 dbA or greater or when it is not feasible to reduce the noise levels or duration of exposures to those specified in Table G-16 below, ear protective devices will be provided and used.

TABLE G-16 - PERMISSIBLE NOISE EXPOSURES	
Sound level	Duration per day, hours
	8
	6
	4
	3
	2
	1 1/2
	1
	1/2
	1/4 or less
	90
	92
	95
	97
	100
	102
	105
	110
	115

**Footnote<sup>1</sup>** When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions:  $C(1)/T(1) + C(2)/T(2) + C(n)/T(n)$  exceeds unity, then, the mixed exposure should be considered to exceed the limit value.  $C_n$  indicates the total time of exposure at a specified noise level, and  $T_n$  indicates the total time of exposure permitted at that level.

$C$  = total length of work day in hours

$T$  = period of noise exposure at any essentially constant level

$C(n)$  = total time of exposure at a specific noise level

$T(n)$  = total time of exposure permitted at that level

**Footnote<sup>2</sup>** When the daily noise exposure is composed of two or more periods of impulsive or impact noise should not exceed 140 dB peak sound pressure level.

A continuing, effective hearing conservation program will be administered when employees are exposed to sound levels greater than 85 dbA on an 8 hour time-weighted average basis.

This Hearing Conservation Program must be implemented when the equivalent noise exposure exceeds unity (the number 1) using the below formula and example:

$$F(e) = (T(1) \text{ divided by } L(1)) + (T(2) \text{ divided by } L(2)) + \dots + (T(n) \text{ divided by } L(n))$$

where:

$F(e)$  = The equivalent noise exposure factor.

$T$  = The period of noise exposure at any essentially constant level.

$L$  = The duration of the permissible noise exposure at the constant level (from TABLE G-12).

If the value of  $F(e)$  exceeds unity (1) the exposure exceeds permissible levels.

Because the action level is an 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, we will implement a monitoring program when this level is reached.

A sample computation showing an application of the formula is as follows.

An employee is exposed at these levels for these periods:

110 db A          1/4    hour

100 db A          1/2    hour

90 db A    1 1/2   hours

$F(e) = (1/4 \text{ divided by } 1/2) + (1/2 \text{ divided by } 2) + (1 \text{ } 1/2 \text{ divided by } 8)$

$F(e) = 0.500 + 0.25 + 0.188$

$F(e) = 0.938$

Since the value of  $F(e)$  does not exceed unity, the exposure is within permissible limits.

### Definitions

There are certain words in our Hearing Conservation Program which are not used in everyday life. So that all may have a clearer understanding of this program, the below definitions are presented:

**Action Level** means an 8-hour time-weighted average of 85 decibels measured on the A-scale, slow response, or equivalently, a dose of fifty percent.

**Attenuate** means to lessen the intensity.

**Audiogram** means a chart, graph, or table resulting from an audiometric test showing an individual's hearing threshold levels as a function of frequency.

**Audiologist** means a professional, specializing in the study and rehabilitation of hearing, who is certified by the American Speech-Language-Hearing Association or licensed by a state board of examiners.

**Baseline Audiogram** means the audiogram against which future audiograms are compared.

**Criterion Sound Level** means a sound level of 90 decibels.

**Decibel (dB)** means unit of measurement of sound level.

**Dosimeter** means an instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

**Hertz (HZ)** means unit of measurement of frequency, numerically equal to cycles per second.

**Medical Pathology** means a disorder or disease which should be treated by a physician specialist.

**NIHL** means noise Induced Hearing Loss.

**Noise Dose** means the ratio, expressed as a percentage, of:

1. the time integral, over a stated time or event, of the 0.6 power of the measured SLOW exponential time-averaged, squared A-weighted sound pressure and
2. the product of the criterion duration (8 hours) and the 0.6 power of the squared sound pressure corresponding to the criterion sound level (90 dB).

**Otolaryngologist** means a physician specializing in diagnosis and treatment of disorders of the ear, nose and throat.

**Representative Exposure** means measurements of an employee's noise dose or 8-hour time-weighted average sound level that the employers deem to be representative of the exposures of other employees in the workplace.

**Sound Level** means ten times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micro pascals. Unit: decibels (dB). For use with OSHA standard 29 CFR 1910.95, SLOW time response is required.

**Sound Level Meter** means an instrument for the measurement of sound level.

**Time-Weighted Average** means that sound level, which if constant over a sound level 8-hour exposure, would result in the same noise dose as is measured.

### Noise Monitoring Procedures

Initially, the implementation of a noise monitoring program is the result of subjective reasoning by Matt Melander. Indications of excessive noise would include: actual information pertaining to specific machines, personal observation, complaints from employees, and noticed indications of hearing loss. It is requested that employees draw attention to work situations where there is an apparent loudness that possibly requires hearing protection.

The measure of a sound's strength is referred to as "sound level" and it is measured in units called "decibels" (dB).

To provide some idea of the loudness of 85 dB, the following comparisons are provided:

<u>Sound of</u>	<u>Approximate Decibels</u>
Softest sound heard with normal hearing	0 dB
Ordinary speech at conversational distance	65 dB to 70 dB
Telephone dial tone	80 dB
Train whistle at 500 feet	90 dB
Power mower	107 dB
Jet engine at 100 feet	140 dB
Gun Shot	140 dB

Sound levels above 80 dB may become uncomfortable; sound above 125 dB may be painful.

Individual occupational sound exposures above 85 dB do not trigger the need for noise monitoring or a Hearing Conservation Program -- it is when the equivalent noise exposure factor exceeds unity. The two factors that cause occupational hearing loss are: 1) loudness and 2) the duration of time one is exposed to that loudness. **In spite of the above**, when information indicates employee exposure may equal/exceed the 8 hr time-weighted avg. of 85 decibels, the monitoring program will be implemented to identify employees to be included in the hearing conservation program.

Hearing loss generally occurs over a lengthy period of time. Of course, as one would reasonably expect, acoustic trauma to your hearing can cause instant and permanent damage.

Our monitoring program is designed to identify:

- a. Areas where feasible administrative controls may be implemented to reduce noise exposure. Example: shorter exposure times.
- b. Areas where feasible engineering controls may be implemented to reduce noise exposure. Example: soundproofing.
- c. Which employees should be included in our hearing conservation program.
- d. The types of hearing protection to be used.

Noise monitoring equipment and procedures will be determined by employee mobility, variations in workplace sound levels, individual types of noise such as impact, impulse, or steady stream; and/or the noise type combinations.

### **Noise Level Monitoring**

The monitoring equipment and procedures will be designed to determine the actual sound levels that reach the employee's ears and the length of time there is exposure to those levels.

Noise level monitoring is generally conducted by using a dosimeter, a sound level meter, or both. Because a sound level meter takes one measurement at one point in time, it is useful when sound is fairly constant and the employee is not moving in and out of the noise area.

A dosimeter, on the other hand, stores sound level measurements and can produce an average noise exposure which can be calculated into an 8-hour time weighted average.

When using a dosimeter in an area where employees are exposed to varying sound levels or they move in and out of the noise area, the dosimeter is actually worn and the sound pick-up is placed close to the employee's ear to get an accurate measurement of the sound level exposure. Generally, a dosimeter is the best choice for the workplace.

Noise level monitoring results, as well as 29 CFR 1910.95, will be made available to affected employees and copies of these items be posted in the workplace.

### **Monitoring Plan**

All continuous, intermittent and impulsive sound levels from 80 dB to 130 dB will be integrated into the noise measurements.

All instruments used to measure employee noise exposure will be calibrated to ensure measurement accuracy.

Representative personal sampling will be used, in lieu of area sampling, when there is high employee mobility, significant variations in sound levels, or a significant component of impulse noise.

Area sampling will be used when sound levels are relatively constant and employees have a constant exposure to them.

When there is a change in workplace activity or equipment which would likely increase noise levels, additional monitoring will be undertaken.

- a. All persons found to be exposed to sound levels at or above the action level will be notified.
- b. Affected employees or their representatives will be allowed to observe the noise monitoring process.

## **Noise Level Monitoring Records**

All noise level monitoring records will be kept for a period of two (2) years.

### **Audiometric Testing Program**

Audiometric testing will be made available at no cost to affected employees.

When noise exposures reach the action level, 8-hour time-weighted average of 85 dbA, the audiometric testing will be initiated.

Audiometric tests will be performed by a licensed or certified audiologist, otolaryngologist, physician, technician who is certified by the Council of Accreditation in Occupational Hearing Conservation, or who has satisfactorily demonstrated competence in administering audiometric examinations, obtaining valid audiograms, and properly using, maintaining, and checking calibration and proper functioning of the audiometers being used. A technician who operates microprocessor audiometers does not need to be certified. A technician who performs audiometric tests must be responsible to an audiologist, otolaryngologist, or physician.

### **Baseline Audiogram**

Within 6 months of an employee's first exposure at or above the action level, a valid baseline audiogram will be established against which subsequent audiograms can be compared. Hearing loss can occur as a result of age, trauma, drug reaction, and exposures that are not work related. However, with a baseline audiogram -- which measures the frequency (125 or 250 Hz to 8000 Hz) and loudness (-10 or 0 dB to 110 dB) -- it is possible from subsequent audiograms to determine with accuracy if hearing loss is due to occupational noise exposure or some other cause.

For the purposes of this program, audiograms must measure, in each ear, at least the frequencies of 500, 1000, 2000, 3000, 4000, and 6000 Hz.

Occupational hearing loss occurs within the inner ear in the cochlea. By using a bone-conduction vibrator, sounds can be carried directly to the inner ear and bypass the outside and middle ear areas.

An annual audiogram may be substituted for the baseline audiogram if the audiologist, otolaryngologist or physician who is evaluating the audiogram determines:

- a. The standard threshold shift revealed by the audiogram is persistent.
- b. The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

### **Procedure**

To ensure an accurate test, employees must not be exposed to occupational noises for at least 14 hours prior to the establishment of a baseline audiogram. To meet this requirement, if needed, hearing protectors may be worn during the preceding work shifts. This procedure is to factor out temporary hearing changes from the test.

### **Annual Audiogram**

At least annually, after obtaining the baseline audiogram, a new audiogram will be obtained for each employee exposed at or above an 8-hour time-weighted average of 85 decibels. Each employee's annual audiogram will be compared to that employee's baseline audiogram to determine if the audiogram is valid and if a standard threshold shift has occurred. If a standard threshold shift has occurred, the employee will be notified in writing within 21 days of this determination.

A standard threshold shift would be a change in hearing of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

While audiograms may be compared by a technician, problem audiograms will be referred to an audiologist, otolaryngologist, or physician for further evaluation.

The person performing this evaluation will be provided the following:

- a. A copy of this program including all standards.
- b. The baseline audiogram and most recent audiogram of the employee to be evaluated.
- c. Measurements of background sound pressure levels in the audiometric test room as required in Appendix D to 29 CFR 1910.95.
- d. Records of audiometer calibrations.

**Note: If the annual audiogram shows that an employee has suffered a standard threshold shift, the employee will be re-tested within 30 days and these results will be considered the annual audiogram.**

If the physician determines that a standard threshold shift has occurred, the following steps will take place:

- a. Those employees not using hearing protectors will wear them and be trained in their use and care.
- b. Those employees using hearing protectors will be re-evaluated and refitted and provided with hearing protectors that offer greater attenuation. They will also be retrained using this program with emphasis on the need for hearing protection.
- c. The employee will be referred for a clinical audiological evaluation or an ontological examination if additional testing is necessary or if it is suspected that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors.
- d. The employee will be informed, if necessary, of the need for an ontological examination if a medical pathology of the ear that is unrelated to the use of hearing protectors is suspected.

### **Audiometric Tests - Recordkeeping**

Audiometric test records will be retained for the duration of the affected employees' employment.

These records will include:

- a. The employee's name and job classification.
- b. The date of the audiogram.
- c. The examiner's name.
- d. The date of the last acoustic or exhaustive calibration of the audiometer.
- e. The employee's most recent noise exposure assessment.
- f. Accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

Upon request, employees may have access to these records.

## Hearing Protectors

At no cost, and replaced as necessary, hearing protectors will be provided to all employees exposed to an 8-hour time-weighted average of 85 dB or greater.

Ear protective devices inserted in the ear will be fitted or determined individually by competent persons.

Appropriate hearing protectors will be available in a variety of styles from which to choose to provide a comfortable fit and employees will be made aware of the proper use and care of the protectors selected.

In selecting appropriate hearing protectors, Matt Melander the below factors:

- a. The hearing protector's noise reduction rating (Subject Fit) [NRR(SF)].

**Note:** The NRR(SF), measured in dB and found as a number on the hearing protector, can be used by subtracting that number from an A-weighted sound level or a time-weighted average noise exposure to determine the level of protection for most (84%) of the users.

**Note:** The NRR(SF) is based on tests of continuous noise and may not be an appropriate indicator for protection against impulse or impact noise.

- b. The user's daily equivalent noise exposure.
- c. Variations in noise levels.
- d. User preference.
- e. Communication needs.
- f. Hearing ability.
- g. Compatibility with other safety equipment.
- h. User's physical limitations.
- i. Climate and other working conditions.
- j. Replacement, care, and use requirements.

## Training

Affected employees (those exposed to action level noise) will receive training in our Hearing Conservation Program and this training will be repeated annually. Training will be updated to be consistent with changes in the PPE and work processes. An employee who is required to wear hearing protectors and fails to do so will be retrained with emphasis on the needless and permanent damage to hearing caused by careless exposure to hazardous noises in the work environment.

Interactive training will include, but not be limited to:

- a. The effects of noise on hearing.
- b. The purpose of hearing protectors, the advantages, disadvantages, and attenuation of various types, and instructions on selection, fitting, use, and care.
- c. The purpose of audiometric testing and an explanation of the test procedures.
- d. A review of the program including all appropriate standards.

## Process of Hearing

Hearing involves, in its simplest terms, conducting sounds from outside your body to your brain. The ear is divided into three main sections:

- a. External Ear                      collects sounds and directs them to the tympanic membrane (ear drum).

### **Major Components:**

- Pinna:                                  the visible part of the ear.
- External auditory canal:        approximately 1¼ inch tube to direct sound to the eardrum.
- Tympanic membrane:          vibrates as it is hit with incoming sounds.

- b. Middle Ear                      air filled space that connects outer ear to inner ear.

### **Major Components:**

- Ossicles:                            three bones commonly called the “hammer”, the “anvil”, and the “stirrup”. These bones collect the sound, amplify it, and transfer it to the fluid in the inner ear.
- Eustachian tube:                  small tube connected to the throat that brings air into the middle ear allowing pressure equalization of both sides of the ear drum.

- c. Inner Ear                        transfers sound vibrations to nerve impulses and sends them to the brain.

### **Major Components:**

- Vestibule:                          helps maintain balance.
- Cochlea:                            takes vibrations of the middle ear bones                      and transfers them into nerve impulses that go the brain. The stirrup, in the middle ear, vibrates through a small opening in the cochlea. This opening is connected to fluid filled canals. The pressure waves in the fluid cause small hair type cells to bend. As they bend, they release a nerve impulse which is sent to the brain. The brain perceives these impulses as sound. This is where noise induced hearing loss occurs.
- Semicircular canals:            involved with equilibrium (balance)
- Acoustic nerve:
  - a. cochlear nerve:                connects the cochlea to the brain.
  - b. vestibular nerve:               connects the semicircular canals to the brain.

## **Noise Induced Hearing Loss (NIHL)**

Moderate exposure to loud noise (over 90 dB for one or more hours) may cause reversible changes within the inner ear such as: subtle intracellular changes in the hair cells or swelling of the auditory nerve endings. These temporary changes present themselves as temporary threshold shifts (TTS) 10 dB or more at various frequencies in either ear. This temporary hearing loss will go away within hours -- 16 hours maximum.

How this loss may occur is as follows: continued sound may decrease the stiffness in the hair bundles at the top of the hair cells in the inner ear. This in turn would cause less vibration at a given sound level and an accompanying loss in hearing.

However, continued exposure to loud noise over time will result in permanent threshold shift (PTS) and the resultant permanent, non-reversible hearing loss.

Additionally, the most common cause of tinnitus (an annoying ringing in the ears) is damage to the ear from noise exposure resulting in hearing loss.

Because the loss of hearing is so gradual, so painless, so unnoticeable, there may be a tendency to not take hearing conservation seriously until it is too late and you have lost one of your major contacts with the world around you – your hearing.

Why bother with a Hearing Conservation Program? Why not, instead, just require hearing protectors at all times, in all situations?"

This misses the point. Your hearing – just as your sight, touch, and smell – is your means of contact and placement in the world around you. By wearing hearing protectors when not needed, you lessen your ability to hear and be in touch with your environment.

You certainly wouldn't want to save your hearing and lose your life because you didn't hear the warning "Watch out!", "Stop!" or you missed the sound of approaching danger.

### **Hearing Conservation Program Recordkeeping**

The below records will be retained.

- a. All noise level monitoring records.
- b. All employee exposure measurements.
- c. All employee audiometric test records which will include:
  1. The employee's name and job classification.
  2. The date of the audiogram.
  3. The examiner's name.
  4. The date of the last acoustic or exhaustive calibration of the audiometer.
  5. The employee's most recent noise exposure assessment.
  6. Accurate records of the measurements of the background sound pressure levels in audiometric test rooms.

### **Record Retention:**

The below records will be retained at least for the period indicated:

Noise exposure measurement records will be retained for two years.

Audiometric test records will be retained for the duration of the affected employee's employment.

### **Access to Records:**

All the above records will be provided upon request to employees, former employees, representatives designated by the individual employee, and the Assistant Secretary.

### **Transfer of Records:**

If TINC ceases to do business, we will transfer to the successor employer all above records and the successor employer will retain them for the remainder of the period noted above.

## Personal Protective Equipment - Respiratory Protection

### 29 CFR 1910.134 - Respiratory Protection

### 29 CFR 1910.134 App C - OSHA Respirator Medical Evaluation Questionnaire

#### Overview

The best respiratory protection one can have is clean, breathable air. Engineering controls are our first line of defense against contaminated or oxygen deficient air. These controls include, but are not limited to, using measures such as enclosure or confinement to keep atmospheric hazards away from employees, general or local ventilation to exhaust hazardous atmospheres, and/or substitution of less toxic materials to avoid hazardous atmospheres in the first place. When effective engineering controls are not feasible, or during the time frame they are being instituted, appropriate respirators will be used.

The concept of respiratory protection is quite simple. Certain types of atmospheric hazards are simply particles that can be filtered out of the air, through the use of an air-purifying respirator. Air-purifying respirators force the harmful particles into a filter specifically designed for the hazard(s) where they are trapped or absorbed. The air reaching the employee's lungs is essentially free of the hazard.

- a. If the action of inhalation causes the ambient air to be sucked through the filter, the respirator is considered a negative pressure respirator.
- b. If the ambient air is forced through the respirator filter (with a blower, for example), the respirator is considered a positive pressure respirator.

A respirator that removes harmful contaminants is of no value in an oxygen deficient (less than 19.5% oxygen) or oxygen enriched (more than 23.5 % oxygen) atmosphere.

An atmosphere-supplying respirator will be used in oxygen deficient atmospheres or in atmospheres where a filter cannot reduce the particulate hazard to an acceptable level. This type of respirator provides clean, breathable air from a source independent of the ambient atmosphere.

Different types of respirators provide different levels of protection. Never may an air-purifying respirator be substituted for a required atmosphere-supplying respirator.

Unfortunately, respiratory protection is more complicated than it first appears. Because of the variety and severity of respiratory hazards, the types of respirators and their limitations, the methods for fitting and testing, and, most importantly, the detrimental ramifications of respirator misuse, this respiratory protection program is required.

Proper respirator selection and use can prevent occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, and vapors. In atmospheres that are immediately dangerous to life or health, proper respirator selection and use will save your life.

When required, employees will be supplied appropriate respirators and all incidental costs associated with respirator use (fit testing, repair parts, filters, medical examinations, cleaning supplies, etc.) will be borne by the company.

## Duties of the Respiratory Program Administrator

Matt Melander, our Respiratory Protection Program Administrator, will keep abreast of developments in the respiratory protection field and ensure that our personnel are provided safe respiratory working conditions.

Additionally, Matt Melander will:

- a. Measure, estimate, or review data on the concentration of airborne contaminants in the work area prior to respirator selection.
- b. Select the appropriate type of respirator that will provide adequate protection from the airborne contaminants or provide clean, breathable air.
- c. Maintain applicable records including:
  1. Fit test record
  2. Medical records
  3. Inspection records
  4. Evaluation records
  5. Training records

## Definitions

There are a number of terms and phrases, not used in ordinary everyday life, which must be understood by affected employees.

**Air-Purifying Respirator** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

**Atmosphere-Supplying Respirator** means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere & includes supplied-air respirators (SARs) & self-contained breathing apparatus (SCBA) units.

**Canister or Cartridge** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

**Demand Respirator** means an atmosphere-supplying respirator that admits breathing air to the facepiece only when a negative pressure is created inside the facepiece by inhalation.

**Emergency Situation** means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

**Employee Exposure** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

**End-of-Service-Life Indicator (ESLI)** means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

**Escape-Only Respirator** means a respirator intended to be used only for emergency exit.

**Filter or Air-Purifying Element** means a component used in respirators to remove solid or liquid aerosols from the inspired air.

**Filtering Facepiece (DUST MASK)** means a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece composed of the filtering medium.

**Fit Factor** means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

**Fit Test** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.

**Helmet** means a rigid respiratory inlet covering that also provides head protection against impact and penetration.

**High Efficiency Particulate Air (HEPA) Filter** means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

**Hood** means a respiratory inlet covering that completely covers the head and neck and may also cover portions of the shoulders and torso.

**Immediately Dangerous to Life of Health (IDLH)** means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

**Loose-Fitting Facepiece** means a respiratory inlet covering that is designed to form a partial seal with the face.

**Negative Pressure Respirator (Tight Fitting)** means a respirator in which the air pressure inside the facepiece is negative during inhalation with respect to the ambient air pressure outside the respirator.

**Oxygen Deficient Atmosphere** means an atmosphere with an oxygen content below 19.5% by volume.

**Physician or Other Licensed Health Care Professional (PLHCP):** an individual whose legally permitted scope of practice allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required medical evaluation.

**Positive Pressure Respirator** means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

**Powered Air-Purifying Respirator (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

**Pressure Demand Respirator** means a positive pressure atmosphere-supplying respirator that admits breathing air to the facepiece when the positive pressure is reduced inside the facepiece by inhalation.

**Qualitative Fit Test (QLFT)** means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

**Quantitative Fit Test (QNFT)** means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

**Respiratory Inlet Covering** means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a facepiece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

**Self-Contained Breathing Apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

**Service Life** means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

**Supplied-Air Respirator (SAR) or Airline Respirator** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

**Tight-Fitting Facepiece** means a respiratory inlet covering that forms a complete seal with the face.

**User Seal Check** means an action conducted by the respirator user to determine if the respirator is properly sealed to the face.

### **Respirator Selection**

Respirators will be selected on the basis of hazards to which the employee will be exposed. Using an inappropriate respirator is just as bad, if not worse, than using no respirator at all because it can evoke a false sense of security while offering no protection to the hazard at hand.

All respirators will be NIOSH approved.

Work area surveillance will be made by Matt Melander taking into consideration the actual work area conditions, the degree of exposure and employee stress.

Respirator selection will take into consideration the air quality, the contaminant, the amount of the contaminant, the time exposure to that contaminant, and the work area surveillance.

Oxygen-deficient atmospheres as well as atmospheres in which the respiratory hazard exposure cannot be determined are considered immediately dangerous to life or health and the use of one of the below listed respirators is required:

- a. A full facepiece pressure demand SCBA certified by NIOSH for a minimum service life of thirty minutes, or
- b. A combination full facepiece pressure demand supplied-air respirator (SAR) with auxiliary self-contained air supply.

**Note: Respirators provided only for escape from IDLH atmospheres will be NIOSH-certified for escape from the atmosphere in which they will be used.**

Generally, but not always, work area atmospheres that require respiratory protection are not IDLH and in these cases respirator selection offers more options. The respirator selected will be adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements under routine and reasonably foreseeable emergency situations. Of course, the respirator selected will be appropriate for the chemical state and physical form of the contaminant.

For protection against gases and vapors, the respirator provided will be:

- a. Atmosphere-supplying.
- b. Air-purifying, provided that:
  1. It is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or
  2. If there is no ESLI appropriate for conditions in respiratory hazard area, a change schedule for canisters and cartridges will be used that is based on objective data that will ensure that canisters and cartridges are changed before the end of their service life.

Matt Melander will rely on past experience and cartridge manufacturer recommendations. If the competent person on site or any respirator user notices that breathing becomes more strained, the change schedule will be modified.

For protection against particulates, the respirator provided will be:

- a. Atmosphere-supplying; or
- b. Air-purifying equipped with a filter certified by NIOSH under 30 CFR part 11 like a HEPA filter; or

**Note:** Filters manufactured under 30 CFR part 11 standards may continue to be used, however, as of July 10, 1998, other than PAPR's, they are not to be purchased. Only 42 CFR part 84 type filters will be used.

- c. Air-purifying equipped with a filter certified for particulates by NIOSH under 42 CFR part 84; or

**Note:** These respirators and filters, other than PAPR's are identified on the packaging with numbers that take the form: TC-84A-XXX.

- a. Filters will have an "N", "R", or "P" designation followed by "100", "99" or "95."

Examples: N100 or R99

- 1. "N" indicates the filter is for any solid or non-oil containing particulate contaminant.
- 2. "R" indicates the filter is for any particulate contaminant. If used for an oil containing particulate, a one shift use limit applies.
- 3. "P" indicates the filter may be used with any particulate contaminant.
- b. The number indicates the filter efficiency -- the higher the number, the more efficient. 100 = 99.97% efficiency; 99 = 99% efficiency; and 95 = 95% efficiency.
  - 1. Air-purifying equipped with any filter certified for particulates by NIOSH for contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers.

Often, the permissible exposure limit (PEL) and suggested respirator is listed on an SDS. Published exposure limits for the contaminant at hand will assist in determining respirator selection.

Matt Melander will select respirators based on:

- a. The nature of the hazardous operation or process.
- b. The type of respiratory hazard including permissible exposure limits.
- c. The period of time for which respiratory protection must be worn.
- d. The activities of workers in the hazardous area.
- e. The respirator's characteristics, capabilities, and limitations.

### **Particulate Respirator Selection**

Prior to respirator selection, the following factors must be known:

- a. The identity and concentration of the particulates in the work area air.
- b. The permissible exposure limit (PEL), the NIOSH recommended exposure limit (REL) or other occupational exposure limit.
- c. The hazard ratio (HR). The (HR) is obtained by dividing the airborne particulate concentration by the exposure limit.

- d. The assigned protection factor (APF) for the type of respirator to be used. The (APF) is the minimum anticipated level of protection provided by each type of respirator worn in accordance with an adequate respiratory protection program. For example, an APF of 10 means that the respirator should reduce the airborne concentration of a particulate by a factor of 10, or to 10% of the work area concentration.
- e. The immediately dangerous to life or health (IDLH) concentration, including oxygen deficiency.

The APF should be greater than the HR and multiplying the occupational exposure limit by the APF gives the maximum work area concentration in which the respirator may be used.

All filters will have a 99.97% efficiency rating indicated by the number 100.

### **Service Life of Filters**

If the selected filters have an end-of-service-life indicator (ESLI), the filters will be used until the indicator shows that it is time to be replaced.

In the absence of an ESLI, the following is our policy of service life of filters:

All HEPA filters manufactured under 30 CFR part 11 (for PAPR's) will be replaced at least daily (once each work shift) or if breathing resistance becomes excessive or if the filter suffers physical damage (tears, holes, etc.) If PAPR filters become available under 42 CFR part 84 standards, they will be used and fall under the below schedule:

All filters will be replaced whenever they are damaged, soiled, or causing noticeably increased breathing resistance.

**N-series** filters may be used and reused subject only to considerations of hygiene, damage, and increased breathing resistance. If the competent person determines the work area to be exceptionally dirty, the filters will be changed each work shift.

**R-series** filter will be changed every work shift if oil is present. If oil is not present, they may be used and reused subject only to considerations of hygiene, damage, and increased breathing resistance. If the competent person determines the work area to be exceptionally dirty, the filters will be changed each work shift.

**P-series** filters will be used and reused in accordance with the manufacturer's time-use limitations when oil aerosols are present.

**P-series** filters can be used and reused subject only to consideration of hygiene, damage, and increased breathing resistance if oil aerosols are not present.

### **Medical Approval for Respirator Use**

Before respirator use – even before fit testing – it must be determined that one is physically capable to wear the type of respirator to be assigned. Wearing negative pressure respirators can place an increased strain on one's respiratory system, and, depending on the task and the environmental conditions (especially heat and cold), respirators can put an additional strain on your whole body. Prior to respirator use, an employee must have a medical examination. The actual medical tests, if any, depend on the hazards involved, the condition of the employee, and the judgment of the physician or other licensed health care professional (PLHCP). If respirators are used to prevent exposure to certain toxic and hazardous substances (for example, lead or asbestos), then additional medical tests and surveillance procedures are required appropriate for the hazard.

A PLHCP will be identified to perform medical evaluations using the medical questionnaire with this program. The PLHCP will be given a copy of this program as well as the appropriate standards.

A follow-up medical examination will:

- a. Be given to an employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of Appendix C, or whose initial medical examination demonstrates the need for a follow-up medical examination.
- b. Include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.

The medical questionnaire and examinations will be given confidentially during normal working hours or at a time and place convenient to the employee. The employee will be given the opportunity to discuss the questionnaire and examination results with the PLHCP.

The PLHCP will be provided the following information to be used in determining an employee's ability to use a respirator:

- a. The type and weight of the respirator to be used by the employee.
- b. The duration and frequency of respirator use.
- c. The expected physical work effort.
- d. Additional protective clothing and equipment to be worn.
- e. Temperature and humidity extremes that may be encountered.

An annual review of medical status is not required and additional medical evaluations are required only if:

- a. An employee reports medical signs or symptoms that are related to ability to use a respirator.
- b. a PLHCP, supervisor, or Matt Melander determines that the employee needs to be reevaluated.
- c. Fit testing and work area program evaluation indicates a need.
- d. A change occurs in work area conditions (e.g., physical work effort, protective clothing, and temperature) that may result in a substantial increase in the physiological burden placed on an employee.

A negative pressure respirator may place an undue burden on an employee's system and the PLHCP may recommend a PAPR be used instead.

Medical records will be retained for 30 years.

Once medical approval is received allowing the respirator use, fit testing may proceed. The employee will be provided with a copy of this determination.

## Respirator Fit Test

There are various protocols for fit testing respirators and they can be found in 29 CFR 1910.134 App A. One (1) of the four (4) qualitative protocols listed below will be used:

### Protocol/Fit Test Procedure

### Appendix A to 29 CFR 1910.134

Isoamyl Acetate Fit Test Procedure	Paragraph B2 Paragraph B2(b)
Saccharin Solution Aerosol Fit Test Procedure	Paragraph B3 Paragraph B3(b)
Bitrex™ Solution Aerosol Fit Test Procedure	Paragraph B4 Paragraph B4(b)
Irritant Smoke (Stannic Chloride) Fit Test Procedure	Paragraph B5 Paragraph B5(c)

The purpose of fit testing is to ensure that the respirator selected will actually do the job for which it was intended. Different manufacturers make different sizes of each model. Fit testing, following the OSHA approved protocols, will ensure that the specific make, model and size are appropriate for the user. An employee may only use the specific respirator(s) on which he/she has passed a fit test.

Eye glasses pose special problems when dealing with respirators. Normal eye glasses, while they do not interfere with the skin to facepiece seal of a ½ face respirator, will prevent a proper seal on a full face respirator and thus will not be worn. If glasses are needed, special adapters can be provided to hold lenses within the respirator.

Upon successful completion of respirator fit testing, a Record of Respirator Fit Test form will be completed and maintained with the employee's records. Only the latest fit test record need be retained. The Respirator Fit Test will be repeated at least annually or when:

- a. A different respirator facepiece (size, style, model or make) is used.
- b. There has been a weight change of at least 20 pounds.
- c. There has been significant facial scarring in the area of the face piece seal.
- d. There has been significant dental changes; i.e., multiple extractions without prosthesis or acquiring dentures.
- e. Reconstructive or cosmetic surgery.
- f. Any other condition that may interfere with facepiece sealing.

As explained in the protocols, the fit tests will not be conducted if there is any hair growth between the skin and the facepiece sealing surface. Further, there will not be mustaches that are so long as to interfere with the inlet or exhaust valves in the respirator. Of course, these requirements apply not only to fit testing procedures, but they also apply to actual on the job use where the seal between face and respirator must be maintained.

## User Seal Check

A user seal check, performed in accordance with the manufacturer's instructions or 29 CFR 1910.134 App B, will be made prior to each use by the wearer of a tight-fitting respirator.

A user seal check is solely for respiratory protection of the employee and without this check there is no way of knowing if the selected respirator is actually working. Failure to perform a seal check may result in the use of a respirator which is of little or no value.

## **Hazard Communication & Emergency Procedures**

One would not be wearing a respirator in the first place if there were not some detrimental health consequences of non-use. Often, these consequences are chronic (long term) and immediately unnoticeable.

If respirator failure would lead to noticeable physical or mental impairment, then, in these situations, two (2) employees will be assigned in the same area and in view of each other. If one employee presents symptoms of physical or mental distress, the second employee will remove the first employee from the area. If there is not an immediate, total recovery, the affected employee will be provided medical care by emergency responders.

In the event work is being performed in an IDLH atmosphere, a safety harness and safety lines will be used so that the employee may be pulled to safety. Suitable rescue equipment will be available and a standby man or men with suitable self-contained breathing apparatus will be at the nearest fresh air base for emergency rescue.

All personnel should be aware of the appropriate SDS for the products they are working with, and particular attention should be given to health hazards; both acute and chronic, symptoms of overexposure, first aid measures, emergency procedures, and exposure limits.

### **Work Area Surveillance**

The competent person at the work area where respirator use is required will maintain appropriate surveillance of work area conditions and degree of employee exposure or stress. When there is a change in work area conditions or degree of employee exposure or stress that may affect respirator effectiveness, Matt Melander, or competent person will reevaluate the continued effectiveness of the respirator.

Employees are to leave the respirator use area:

- a. To wash their face and respirator facepiece as necessary to prevent eye or skin irritation associated with respirator use.
- b. If they detect vapor or gas breakthrough, changes in breathing resistance, or leakage of the facepiece.
- c. To replace the respirator or the filter, cartridge, or canister elements.

Defective respirators will be repaired or replaced before returning to the respirator use area.

### **Air Quality**

Atmosphere-supplying respirators, depending on the type (supplied-air or SCBA) use compressed air, compressed oxygen, liquid air or liquid oxygen. Compressed and liquid oxygen must meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Compressed breathing air must meet the requirements of Grade "D" breathing air including: oxygen content (v/v) of 19.5-23.5%; hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less; carbon monoxide content of 10 ppm or less; carbon dioxide content of 1,000 ppm or less; and lack of noticeable odor. Compressed oxygen will not be used in supplied-air respirators or open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with airline respirators.

Breathing air may be supplied to respirators from cylinders or air compressors. If cylinders are used, they will be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 178).

If a compressor is used for supplying breathable air by way of airline hoses to a respirator mask, it is a Type "C" system. The hose couplings used on these systems must not be compatible with any other gas systems. Breathable air -- not pure oxygen -- is used in these systems. All safety and standby devices will be maintained in working order such as alarms to warn of compressor failure or overheating.

Compressors will be located so that contaminated air does not enter the system and suitable in-line filters will be installed. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in the event of a compressor failure will be in place. If an oil lubricated system is used, it will have a high temperature and carbon monoxide alarm.

### **Cleaning, Inspection, and Maintenance**

Respirators issued for the exclusive use of one worker will be cleaned and disinfected after each day's use or more often, if necessary. A respirator used by more than one person will be cleaned and disinfected after each use by the employee who used it. Cleaning should be done using the manufacturer's recommendations or the guidelines in 29 CFR 1910.134 App B. Remove or protect the filters/cartridges before cleaning because moisture can defeat the effectiveness of a filter. During cleaning, an inspection of the respirator will be made to ensure it retains its original effectiveness. Valves, straps, canisters, elasticity, facepiece, if applicable, will be inspected per the manufacturer's instructions. Defective parts will be replaced before reuse.

Employees who use respirators will be instructed in the replacement of parts as allowed by the manufacturer (such as valves and straps). Respirators that require a higher level of repair will be returned to the manufacturer. All replacement parts will be of the same manufacture as the respirator and all replacement parts will be NIOSH approved. Maintenance will be limited to replacing parts (straps, filters, valves, etc.) allowed by the manufacturer. Only respirators in 100% working order will be used.

Cleaning supplies and replacement parts will be provided at no cost. In the event a respirator is not used for thirty (30) days, it will be inspected by a competent person. Particular attention will be paid to SCBA apparatus and Type "C" connections. SCBA apparatus will be inspected monthly and air and oxygen cylinders will be fully charged according to the manufacturer's instructions. All warning devices will be checked to ensure they are properly functioning.

### **Maintenance of Emergency/Unassigned Respirators**

Emergency and unassigned respirators (respirators used by more than one person) will be cleaned and inspected for defects every thirty (30) days and after each use. Particular attention will be given to the elasticity of the respirator and ensuring that the respirator is defect free. Only the latest record of this inspection will be maintained. A tag showing the name of inspector, the date, and condition of the respirators will be attached to the respirator.

## **Storage of Respirators**

Respirators will be stored in a convenient, clean, and sanitary location in such a manner as to protect them from dust, heat, sunlight, extreme cold, excessive moisture, and damaging chemicals. In the work area, a plastic bag can help protect a respirator from dust and moisture. Respirators will not be stored in lockers or tool boxes unless they are in cases or cartons. Respirators will be stored with the facepiece and exhalation valve resting in a normal position. This will also prevent the soft, pliable material of which respirators are made from setting in an abnormal position, changing shape, and reducing face to mask seal.

## **Program Evaluation**

This Program will be evaluated on a continual basis and updated if the need arises. Reasons for upgrading would include new atmospheric hazards; new respiratory protection equipment; new or altered work procedures; the introduction of new engineering controls; the failure of employees to follow standard operating procedures. Often, the effects of breathing contaminated atmospheres are chronic in nature and thus some employees may tend to become lax in using their respirators properly. Supervisors must be on alert for this tendency.

Employees must realize that they must use the provided respiratory protection in accordance with the instructions and training received.

## **Training**

Training will be given by a competent person, prior to use, to ensure each affected employee can demonstrate knowledge of at least the following:

- a. Why a respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- b. What the limitations and capabilities of the respirator are.
- c. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- d. How to inspect, put on and remove, use, and check the seals.
- e. The procedures for maintenance and storage of the respirator.
- f. How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- g. The general concepts of this program.

Retraining will be given annually and when:

- a. Changes in the work area or the type of respirator render previous training obsolete.
- b. Inadequacies in the employee's knowledge or use of the respirator indicate that the employee lacks the required understanding or skill.
- c. A situation arises in which retraining appears necessary to ensure safe respirator use.

## **Dust Masks – Use of Respirators when not Required**

Matt Melander, or competent person, in the work area will determine when respirator use is **required**. Dust masks may be used at any time to reduce annoying particles in the air in the work area.

An employee who wants to wear an actual respirator in the work area for comfort or an additional level of safety that is **not required** for health reasons according to standards, must obtain medical approval for respirator use according to the procedures outlined in this program.

Additionally, that employee should read this program (formal training is not required) and:

- a. Read and heed all manufacturers' instructions on use, maintenance, cleaning and care, and warnings regarding the respirator's limitations.
- b. Choose a respirator certified for use to protect against the contaminant of concern. The respirator must be NIOSH approved.
- c. Not wear the respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. A respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
- d. Not interchange the respirator with another employee.

### **Disposable Respirators:**

OSHA requires that employees who voluntarily use disposable respirators in situations where respiratory protection is not specifically required by OSHA standard (in atmospheres where exposures are below the permissible exposure limit) essentially for personal comfort or additional, though not required, respiratory protection be informed of 29 CFR 1910.134 Appendix D.

All disposable respirators, such as Moldex, 3M, Wilson, North Safety, etc. must be marked with the manufacturer's name, the part number, the protection provided by the filter, and "NIOSH".

Disposable filters are actually negative pressure respirators. They protect the user by filtering particles out of the air breathed.

Though disposable filters cannot be fit-tested in the traditional sense, they must be fit-tested in accordance with the manufacturer's instructions.

Under no circumstances may any respirator other than the above disposable respirators be used without compliance with a respiratory protection program.

**Standard Number: 1910.134 App D****Standard Title: (Mandatory) Information for Employees Using Respirators When not Required Under Standard.**

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard. You should do the following: 1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations. 2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you. 3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke. 4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

# TINC TINC HQ

## Respiratory Protection Program Evaluation Form

Matt Melander, or a designated competent person, will conduct work area and administrative evaluations to ensure the provisions of our respiratory protection program are being properly implemented. Discrepancies noted will be immediately corrected.

A random sampling of affected personnel addressed the below listed concerns and the responses are indicated below:

	Yes	No
Is the respiratory protection program understood?	<input type="checkbox"/>	<input type="checkbox"/>
Problem areas:	<hr/>	
Corrective action:	<hr/> <hr/>	
Do respirators fit without interfering with job performance?	<input type="checkbox"/>	<input type="checkbox"/>
Problem areas:	<hr/>	
Corrective action:	<hr/> <hr/>	
Are respirators being properly maintained?	<input type="checkbox"/>	<input type="checkbox"/>
Problem areas:	<hr/>	
Corrective action:	<hr/> <hr/>	
Are appropriate respirators selected for the hazard?	<input type="checkbox"/>	<input type="checkbox"/>
Problem areas:	<hr/>	
Corrective action:	<hr/> <hr/>	

\_\_\_\_\_  
(Signature of Person performing evaluation)

\_\_\_\_\_  
(Date)

**Note: Retain only the latest evaluation.**

**TINC**  
**TINC HQ**  
**Report of Medical Examination**

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Applicant's Name)

\_\_\_\_\_  
Job for which person is being examined: \_\_\_\_\_

Reason for medical examination: Respirator use.

Type(s) of respirator to be used: \_\_\_\_\_

Atmospheric hazards for which the above respirators will be used: \_\_\_\_\_

\_\_\_\_\_  
**Note: Circle the appropriate paragraphs and subparagraphs.**

1. Based on the information available to me, it is my opinion that the above-named person may be placed in the job position with no restrictions in work assignments.
2. Based on all the information available to me, it is my opinion that the above-named person has a detected medical conditions(s) or finding(s) which:
  - a. Places this person or others at increased risk of material impairment of health from anticipated or potential occupational exposures or activities.
  - b. May be aggravated by occupational exposures or activities.
  - c. May interfere with safe and/or effective performance.
  - d. Needs follow-up. This includes changes which may be with "normal limits" based on the current assessment and/or comparison with previous results. Based on available data, the casual relationship of these findings to occupational exposures appears to be positive/negative/ill defined.
  - e. Other: (Explain)\_\_\_\_\_
3. On the basis of the above, I recommend:
  - a. No restrictions in work assignments for the above job.
  - b. Restricted activities: (List)\_\_\_\_\_
  - c. Limited exposure: (Note)\_\_\_\_\_
  - d. Special protective measures: (Note)\_\_\_\_\_
  - e. Medical follow-up: (Note)\_\_\_\_\_
  - f. Limitation on the use of a negative pressure or air purifying respirator: (Explain)\_\_\_\_\_
  - g. Other:(Note)\_\_\_\_\_

4. I have advised the employee of any detected medical condition of finding which dictates further medical examination or treatment and have appropriate recommendations regarding medical follow-up and exposure. This will be documented in writing.

5. Additional comments: \_\_\_\_\_

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6. I understand that a copy of this report will be given to the examinee by the person receiving it.

DATE: \_\_\_\_\_

\_\_\_\_\_  
(Physician's Signature)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(City, State, ZIP)

\_\_\_\_\_  
(Telephone Number)

Return this form to:

TINC

Matt Melander

68 Tenney Street

Georgetown, MA 01833

833-879-8462

**TINC**  
**TINC HQ**  
**Medical Opinion for Respirator Use**

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Applicant's Name)

TO: Return this form to:

TINC  
Eric Rogers  
68 Tenney Street  
Georgetown, MA 01833  
833-879-8462

RE: Medical Opinion for Respirator Use

On this date, based on the employee medical questionnaire and/or further medical examination, the above named applicant is found to be:

- a. Eligible to use a respirator. \_\_\_\_\_  
(Respirator type, i.e., ½ face; full face; PAPR; SCBA)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. Eligible to use a respirator with the following restrictions:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Respirator type, i.e., ½ face; full face; PAPR; SCBA)

- c. Not eligible to use a respirator.

\_\_\_\_\_  
(Signature of physician or licensed healthcare professional)

\_\_\_\_\_  
(Typed or Printed Name)

\_\_\_\_\_  
(Street Address)

\_\_\_\_\_  
(City, State, ZIP)

**TINC**  
**TINC HQ**  
**Respirator Fit Test Summary**

Name of employee: \_\_\_\_\_

Date of Testing: \_\_\_\_\_ Test Conducted By: \_\_\_\_\_

Respirator(s) Selected: \_\_\_\_\_  
(Manufacturer) (Model/Series)

☐ Pass

☐ Fail \_\_\_\_\_  
(Respirator Size) (NIOSH Certification #)

Respirator(s) Selected: \_\_\_\_\_  
(Manufacturer) (Model/Series)

☐ Pass

☐ Fail \_\_\_\_\_  
(Respirator Size) (NIOSH Certification #)

Respirator(s) Selected: \_\_\_\_\_  
(Manufacturer) (Model/Series)

☐ Pass

☐ Fail \_\_\_\_\_  
(Respirator Size) (NIOSH Certification #)

Testing Agent (Protocol): Circle One

- |   |                       |
|---|-----------------------|
| a. Isoamyl Acetate Protocol.            | (Banana Oil)          |
| b. Saccharin Solution Aerosol Protocol. | (Saccharin Taste)     |
| c. Bitrex™ Solution Aerosol Protocol    | (Denatonium Benzoate) |
| d. Irritant Smoke Protocol.             | (Irritant Smoke)      |

Signature of Person Conducting the Test: \_\_\_\_\_

Signature of Employee: \_\_\_\_\_

The Respirator Fit Test will be repeated at least annually or when:

- a. A different respirator facepiece (size, style, model or make) is used.
- b. There has been a weight change of at least 20 pounds.
- c. There has been significant facial scarring in the area of the face-piece seal.
- d. There has been significant dental changes; i.e., multiple extractions without prosthesis or acquiring dentures.
- e. Reconstructive or cosmetic surgery.
- f. Any other condition that may interfere with facepiece sealing.



## **Prevention of Heat and Cold Stress**

### **Prevention of Cold Stress**

Cold related work illness is a real threat to our employees who work outside during months of cold weather. In order to lessen this threat, this program has been prepared. All current employees will be given instruction in this program prior to working outside where the possibility of frostbite and hypothermia exist.

On days when applicable environmental conditions exist (temperatures or wind chill factors equal to or less than 30 degrees F), the site supervisor will, before the morning shift starts, remind workers of the danger of frostbite and hypothermia, the procedures to lessen its impact, and, in the worst case, the procedure for medical response.

All persons should recognize the symptoms of cold related illness.

#### **Frostbite**

(Sensations of coldness; tingling, stinging or aching feeling of the exposed area followed by numbness of ears, fingers, toes, cheeks, and noses. Frostbitten areas appear white and cold to the touch)

Seek medical assistance immediately.

Frostbitten parts should be covered with dry, sterile gauze or soft, clean cloth bandages.

DO NOT massage frostbitten tissue

Take measures to prevent further cold injury.

#### **General Hypothermia**

(Shivering, an inability to do complex motor functions, lethargy, and mild confusion)

Conserving remaining body heat. Providing additional heat sources. Seek medical assistance for persons.

#### **Severe Hypothermia**

(Unresponsive and not shivering)

Seek medical attention immediately. Reduce heat loss by:

- a. Obtaining shelter.
- b. Removal of wet clothing.
- c. Adding layers of dry clothing, blankets, or using a pre-warmed sleeping bag. The four environmental conditions that cause cold-related stress are low temperatures, high/cool winds, dampness and cold water. Wind chill, a combination of temperature and velocity, is a crucial factor to evaluate when working outside. For example, when the actual air temperature of the wind is 40°F (4°C) and its velocity is 35 mph, the exposed skin receives conditions equivalent to the still-air temperature being 11°F. A dangerous situation of rapid heat loss may arise for any individual exposed to high winds and cold temperatures.

The purpose of this program is to take definitive measures prior to the onset of cold related illnesses so that medical response will not be necessary. If the above conditions do present themselves, the supervisor, who will always have access to a mobile phone, will follow our standard emergency procedures.

Definitive measures to prevent cold related illness include:

## Personal Protective Clothing

Personal Protective Clothing is the most important step in fighting the elements is providing adequate layers of insulation from them. Wear at least three layers of clothing:

- a. An outer layer to break the wind and allow some ventilation (like Gore-Tex® or nylon);
- b. A middle layer of wool or synthetic fabric (Qualofil or Pile) to absorb sweat and retain insulation in a damp environment. Down is a useful lightweight insulator; however, it is ineffective once it becomes wet.
- c. An inner layer of cotton or synthetic weave to allow ventilation.

Pay special attention to protecting feet, hands, face, and head. Up to 40% of body heat can be lost when the head is exposed. Footgear should be insulated to protect against cold and dampness. Keep a change of clothing available in case work garments become wet.

## Engineering Controls

Engineering Controls help reduce the risk of cold-related injuries.

- a. Use an on-site source of heat, such as air jets, radiant heaters, or contact warm plates.

**Note:** During telecommunication operations, flame-type heaters may not be used within ground tents or on platforms within aerial tents unless the tent covers are constructed of fire-resistant materials and adequate ventilation is provided to maintain safe oxygen levels and avoid harmful buildup of combustion products and combustible gases.

- b. Shield work areas from drafty or windy conditions.
- c. Provide a heated shelter for employees who experience prolonged exposure to equivalent wind-chill temperatures of 20°F or less.
- d. Use thermal insulating material on equipment handles when temperatures drop below 30°F.

## Safe Work Practices

Safe Work Practices, such as changes in work schedules and practices, are necessary to combat the effects of exceedingly cold weather. Possible workable safe practices include:

- a. Allowing a period of adjustment to the cold before embarking on a full work schedule.
- b. Permitting employees to set their own pace and take extra work breaks when needed.
- c. Reducing, as much as possible, the number of activities performed outdoors. When employees must brave the cold, selecting the warmest hours of the day and minimize activities that reduce circulation.
- d. Ensuring that employees remain hydrated.
- e. Establishing a buddy system for working outdoors.
- f. Educating employees to the symptoms of cold-related stresses – heavy shivering, uncomfortable coldness, severe fatigue, drowsiness, or euphoria.

## **Provision of Water**

Employees will have access to adequate quantities of potable drinking water.

Where the supply of water is not plumbed or otherwise continuously supplied, water will be provided in sufficient quantity.

Supervisor will provide frequent reminders to employees to drink frequently, and, if needed, more water breaks will be provided.

Drinking water will be dispensed in containers with a tight sealing lid and labeled as Drinking Water. Drinking water containers are to be cleaned daily. Water containers will be placed as close as possible to the workers.

Supervisors will monitor water consumption and water supply and ensure adequate levels are available to last the whole shift.

Disposable/single use drinking cups will be provided to employees.

Supervisors will remind employees that personal military style canteens may be worn containing water. In cold weather conditions, employees are encouraged to drink warm, sweet beverages (sugar water, sports-type drinks). They should avoid drinks with caffeine (coffee, tea, or hot chocolate). Employees are cautioned, however, that sharing water from a personal canteen is forbidden and, because of the health hazard to the user and the person with whom it is shared, disciplinary action will be taken against both employees if they drink out of the same container. This disciplinary action will be documented using our disciplinary enforcement form.

## **Training**

All employees will read this program and be given interactive training in its provisions. A copy of this program will be kept at the work area during applicable periods of cold weather.

All supervisors will read the below informational items prior to utilization of this program and have an opportunity for discussion and clarification with Eric Rogers, our Safety Director.

OSHA Cold Stress QuickCard 3156

## **Prevention of Heat Stress**

Heat related work illness is a real threat to our employees who work outside during months of high heat and humidity. In order to lessen this threat, this program has been prepared.

All current employees will be given instruction on this program prior to working in heat illness inducing environments or other severe environmental conditions.

On days when applicable environmental conditions exist - periods of hot weather (equal to or greater than 85°F and 40% Relative Humidity) -the site supervisor will, before the morning shift starts, remind workers of the danger of heat illness, the procedures to lessen its impact, and, in the worst case, the procedure for medical response.

All persons should recognize the symptoms of heat related illness.

### **Heat Exhaustion**

(Fatigue; weakness; profuse sweating; normal temperature; pale clammy skin; headache; cramps; vomiting; fainting)

Remove from hot area.

Have victim lie down and raise feet.

Apply cool wet cloths.

Loosen or remove clothing.

Allow small sips of water if victim is not vomiting.

### **Heat Stroke**

(Dizziness; nausea; severe headache; hot dry skin; confusion; collapse; delirium; coma and death)

Call for immediate medical assistance.

Remove victim from hot area.

Remove clothing.

Have victim lay down.

Cool the body (shower, cool wet cloths)

Do not give stimulants.

The purpose of this program is to take definitive measures prior to the onset of heat exhaustion and heat stroke so that medical response will not be necessary. If the above conditions do present themselves, the supervisor, who will always have access to a mobile phone, will follow our standard emergency procedures.

Definitive measures to prevent heat related illness include:

- a. Provision of water
- b. Provision of shade
- c. Provision of rest (recovery period)
- d. Modified work procedures

### **Provision of Water**

Water is a key preventive measure to minimize the risk of heat related illnesses. Employees will have access to adequate quantities of potable drinking water.

Where the supply of water is not plumbed or otherwise continuously supplied, water will be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift.

Supervisors will encourage the frequent drinking of water. The supervisor or a designated person will monitor water consumption every 30 minutes. Employees are encouraged to report bad tasting water or low levels of water immediately so the situation can be corrected.

Supervisor will provide frequent reminders to employees to drink water, and, if needed, more water breaks will be provided.

Every morning during conditions where this program is applicable, there will be short tailgate meetings to remind workers about the importance of frequent consumption of water throughout the shift.

Drinking water will be dispensed in containers with a tight sealing lid and labeled as Drinking Water. Drinking water containers are to be cleaned daily. Water containers will be placed as close as possible to the workers.

Supervisors will monitor water consumption and water supply and ensure adequate levels are available to last the whole shift. Disposable/single use drinking cups will be provided to employees. During extreme conditions, the supervisor will blow an air horn to remind workers to take a water break.

Supervisors will remind employees that personal military style canteens may be worn containing water. Employees are cautioned, however, that sharing water from a personal canteen is forbidden and, because of the health hazard to the user and the person with whom it is shared, disciplinary action will be taken against both employees if they drink out of the same container. This disciplinary action will be documented using our disciplinary enforcement form.

As a reminder of the importance of water to the human system, the following information is supplied:

### **Fluids**

If you heard in advance that this safety meeting was on fluids, you may well have thought that the meeting would focus on the storage, use, clean-up, and possible emergency procedures involved with the liquid chemical products used on or near work areas. You'd be wrong. While the above are important topics and questions related to them should be addressed to the competent person, this safety meeting is about **your** bodily fluids.

From a safety standpoint, you must not neglect your need for potable (drinkable) fluids. Water is not only the most abundant of all compounds found on the earth, it is the most abundant part of you – actually about 65% of you is water.

Drink fluids! From a life process standpoint, what fluid intake is doing is keeping you healthy by allowing your body to maintain its core body temperature at its appropriate level. When your brain senses that cooling action is needed, your body circulates blood to your skin to allow it to cool with the outside temperature. If the water used for sweat is not replaced, a water deficit starts to occur. The millions of chemical reactions taking place in your body at every moment can only occur in the presence of water. The fluids in your body transport nourishment, gases, and waste.

Imagine your body as a water based chemical factory that functions only within a narrow temperature range. An average, healthy person, at rest, has an oral temperature of between 98.6°F and 100.4°F. If your body temperature reaches 105.8°F, convulsions may occur. Your whole central nervous system is impaired when your body temperature raises 9°F above normal. At 106.0°F, the thermoregulatory center in your brain fails and, because of damage to your central nervous system, the sweating (cooling) mechanism cuts off when you need it most. It is a vicious circle – the hotter you get, the more heat you generate through metabolism. In fact, at 107.6°F, cellular metabolism is 50% higher than at normal temperatures.

Without getting too graphic, here are some of the problems associated with extreme water loss: cells will shrink; the skin will lose its elasticity; skin and mucous membrane cells will dry out eyeballs will become soft; weight loss will occur; the body temperature will rise; apprehension, restlessness, and even coma may occur; urine will become concentrated; renal shutdown will occur; red blood cells will shrink; death.

Stay healthy! Drink water! Water is truly the stuff of life.

## **Provision of Shade**

The supervisor will ensure that employees have access to shade to minimize the risk of heat related illnesses. If natural shade is not available, the supervisor will ensure that sun umbrellas or portable canopies are provided in adequate number. These umbrellas or canopies will be placed in close proximity to the work activity (i.e., no more than 50-100 yards).

Ideally, if available, employees will be allowed to get out of the sun by entering an air conditioned structure such as a building or job trailer. This not only provides shade, it provides a cool, less humid, atmosphere. Any employee who feels the need for shade will protect himself/herself from the sun for a period of not less than 5 minutes.

Lastly, but importantly, persons must provide personal shade in the form of shirts (preferably light colored to reflect the sun). Shirts are required to prevent sunburn, another health hazard.

## **Provision of Rest (Recovery Period)**

While shade and rest often go hand in hand, they are two distinct activities. Any employee who, due to heat, humidity, or exertion under the provisions of this program, may rest for a period of not less than 5 minutes if that employee believes a preventative recovery period is required.

## **Modified Work Procedures**

The supervisor will make every effort, consistent with our effort to properly perform our job tasks, to modify work procedures. Example would include performing work requiring heavy exertion during the cooler hours of the day, assigning more persons to a job task to lessen the effort required of each, and the use of machinery in lieu of physical effort.

All employees, but new employees in particular, should be allowed to acclimate to hotter weather. It takes a body four to fourteen days to acclimate to hotter weather. Reduced workloads and careful attention to new employees may be required.

## **Training**

All employees will read this program and be given interactive training in its provisions. A copy of this program will be kept at the work area during applicable periods of heat and humidity.

All supervisors may wish to read the below informational items prior to utilization of this program and have an opportunity for discussion and clarification with Eric Rogers, our Safety Director.

The American Red Cross Health & Safety Tips, Heat Related Illness  
CAL OSHA Heat Illness Prevention etool

# **TINC**

## **Safety Program Addendum**

**TINC**

**Company Specific Safety Requirements**

We currently do not have any company specific safety requirements.