IEA, INC.

NORTHFIELD PUBLIC SCHOOLS

Contact Us:

BROOKLYN PARK OFFICE
9201 W. BROADWAY, #600
BROOKLYN PARK, MN 55445
763-315-7900

MANKATO OFFICE
610 N. RIVERFRONT DRIVE
MANKATO, MN 56001
507-345-8818

ROCHESTER OFFICE
210 WOOD LAKE DRIVE SE
ROCHESTER, MN 55904
507-281-6664

BRAINERD OFFICE
13432 ELMWOOD DRIVE, STE. #5
BAXTER, MN 56425
218-454-0703

MARSHALL OFFICE
1420 EAST COLLEGE DRIVE
MARSHALL, MN 56258
507-476-3599

NORTHEAST OFFICE
5525 EMERALD AVENUE
MOUNTAIN IRON, MN 55768
218-410-9521

www.ieasafety.com

info@ieasafety.com

800-233-9513

Management Plan for Compressed Gas

FEBRUARY 2016

IEA Project #201410725

Northfield Public Schools

Management Plan for Compressed Gas

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Contact Person: Jim Kulseth

Phone Number: 507-663-0600

Email Address: jkulseth@northfieldschools.org

Northfield Public Schools* Annual Review Form *Management Plan for Compressed Gas

Certification

I certify that I have reviewed the information provided and accept this written management plan. With assistance from our EHS consultant, the district will implement the policies and procedures noted within this plan. The written plan is a working document that will be reviewed and revised annually, or as needed.

Print Name _____ Signature _____ Date _____

Program reviews and follow-up of program-related issues are documented below.

Date	Actions/Comments	Reviewed by:
2/10/16	Annual Review, update contact person	Ben Olsen
01/2018	Reviewed plan, no changes	Cassie Bowser, IEA

1.0 Purpose

Northfield Public Schools is committed to providing a safe and healthy workplace for our employees. The purpose of this management plan is to establish guidelines for proper storage, handling, and use of compressed gas cylinders and to comply with OSHA 29 CFR 1910.101 *Compressed Gases (general requirements)* and MN Rule 4717.2630 *Use of Gas Chlorine* (if applicable).

2.0 Program Responsibilities

The identified contact person for the compressed gas program is the Director of Buildings & Grounds. The contact person's responsibilities include:

- Coordinate annual inspections of compressed gas cylinders and storage locations
- Provide training to employees who use compressed gases
- Provide an emergency response plan wherever compressed gases are stored, handled, or used
- Review and revise this management plan, as necessary

The responsibilities of compressed gas users include:

- Participate in compressed gas training
- Follow safe operating procedures for storage, transportation and handling
- Do not modify, tamper with, paint, deface, obstruct, remove, or repair any part of the cylinder, including markings
- Recognize when foreign substances have entered the container or valve; if the possibility exists, identify, clearly mark, and notify the gas supplier

3.0 Cylinder Locations

Compressed gas cylinders are found in the industrial arts shop and maintenance garage. An inventory of compressed gas cylinders is maintained at the district office with the inspection reports in Appendix A.

4.0 Applicable Regulations

This Management Plan for Compressed Gases encompasses general requirements for compressed gas safety. Additional regulations specific to certain cylinder gases (e.g., oxygen, acetylene, propane) or activities that utilize compressed gases (e.g., welding) are found in OSHA 29 CFR 1910 Subpart H *Hazardous Materials* and Subpart Q *Welding, Cutting, and Brazing*. Procedures to comply with these standards may be found in other district safety plans.

5.0 Standard Operating Procedures for Storage

Employees responsible for cylinder storage abide by the following procedures:

- Signs are posted in storage areas with the hazard class or name of the gases. Warnings such as "No Smoking" are posted where appropriate.
- Cylinders are to be grouped together by the hazard class of the gas. Additional consideration is given to separation of full and empty cylinders.
- Cylinders that are stored inside of buildings are stored in well-drained, well-ventilated, fire-resistive locations at least 20 feet from heat sources or highly combustible materials. Subsurface locations are avoided.
- Cylinders stored outdoors are protected from prolonged exposure to damp environments.
- Cylinders stored or used in public areas are secured and protected against tampering, damage, vandalism, and theft for illegal activity. Access is limited to authorized personnel.
- An inventory of compressed gases is maintained, and discrepancies are investigated for security purposes. Theft, misuse, or inventory shortages are reported to law enforcement and the gas supplier.
- Cylinders are not exposed to salt, corrosive chemicals, or fumes.
- Storage area temperatures do not allow cylinder temperatures to exceed 125°F. Sun exposure is allowable except where 125°F ambient temperature is exceeded, or when the gas supplier recommends storage in the shade.
- Cylinders are not stored near elevators, walkways, unprotected platform edges, emergency exit routes, or where heavy moving objects can strike or fall on them.

- Compressed gas cylinders are adequately secured to prevent falling and rolling.
- Cylinders are stored valve end up unless designed to be stored otherwise.
- Valve protection caps (where the cylinder is designed to accept a cap) is always in place and hand tight, except when cylinders are in use or connected for use.
- Empty and charged cylinders are stored with their valves closed.
- Doors or windows in a storage area conform to NFPA 80-1970.

6.0 Standard Operating Procedures for Transportation and Handling

When handling or moving compressed gases, the following procedures are required:

- Cylinders are moved by a hand truck, forklift, cylinder pallet system, or similar device, and are properly secured. If necessary, they may be moved by tilting and rolling them on their bottom edges - they are never rolled in the horizontal position. Dragging and sliding is to be avoided. Care is taken to guard against dropping or permitting cylinders to violently strike against each other or other surfaces.
- Valve protection caps and/or magnets are not used for lifting cylinders.
- Regulators are removed, valves are closed, and valve protection caps are in place and hand-tight when full or empty cylinders are transported.
- Valve connections that do not fit are not forced.
- Valves are opened slowly with the gas stream not directed toward any person.
- Ropes, chains, or slings are not used to suspend cylinders unless the cylinder was designed with appropriate lifting attachments. Lifting attachments, or any other attachments, are never welded to cylinders.
- Cylinders are not used as rollers, supports, or for any purpose other than to contain and use the contents as received.
- Cylinders are not placed where they might become part of an electrical circuit; they are not to be grounded or used for grounding.
- Cylinders are not exposed to temperature extremes.
- Transfer of gases from one container to another is only performed by the gas supplier.
- Non-refillable cylinders are not refilled; they are disposed of in accordance with manufacturer's recommendations.
- The gas supplier is notified when any of the following conditions exist:
  - Exposed to fire
  - Leaking or defective components
  - Noticeably corroded, dented, cut, damaged, or involved in an accident

7.0 Cylinder Markings

Compressed gas cylinders are legibly marked for the purpose of identifying the gas content with either the chemical or the trade name of the gas, as well as the physical and health hazards and precautions. These markings are by means of stenciling, stamping, or labeling and are not readily removable. Color is not used for identification of contents. Labels are not defaced or removed by the user. Whenever practical, the markings are located on the shoulder of the cylinder. Containers not properly marked are not used. They are segregated and promptly returned to the gas supplier or distributor. Empty cylinders are marked as such and promptly returned to the supplier.

8.0 Inspections

Compressed gas cylinders and storage areas are visually inspected before each use and once per calendar year. Any cylinder failing to meet these requirements is removed from service. Documentation of the annual inspections is maintained at the district office.

Cylinders and storage areas are visually inspected for:

- Obvious physical damage, such as dents, cuts, gouges, corrosion, pitting, bulges, cracks, leaks, distortion, fire exposure

- Appropriate labeling
- Valves closed and caps in place
- Pressure reducing regulators
- Cylinders secured
- MSDSs/SDSs available
- NO SMOKING signs posted
- Oxygen and fuel stored separately
- Cylinders not stored near hazards or where they could create hazards (e.g., heat, ignition sources, combustible materials, elevators, walkways, unprotected platform edges, emergency exit routes)

Compressed gas users who have questionable cylinders and lack experience in cylinder inspection should return them to the manufacturer or send them to a competent requalification agency for re-inspection.

Compressed gas cylinders are required to undergo a requalification inspection periodically by a person holding a current approval issued by the DOT. The requalification period varies by cylinder type. The gas supplier is to determine if requalification is needed prior to refilling. Cylinders may be re-qualified anytime during or before the month and year that the requalification is due. However, a cylinder filled before requalification is due may remain in service until it is emptied. Refilling is not allowable after the authorized service life of the cylinder has expired.

Cylinder users may need to modify general inspection procedures to suit their specific type of cylinder and/or the specific conditions of use that exist in the workplace.

9.0 Emergency Response

An emergency response plan in accordance with 29 CFR 1901.120(p)(8) is in place wherever compressed gas cylinders are used, handled, or stored. The following precautions and information have been considered:

- Only qualified personnel respond to compressed gas emergency situations.
- The immediate area in danger is promptly evacuated, and personnel are kept upwind.
- MSDSs/SDSs are consulted for specific hazards, precautionary safety, and related emergency response information.
- Appropriate personal protective equipment is provided for and used by personnel trained and authorized to enter the danger zone. Appropriate PPE is determined through hazard assessment.
- Emergency response personnel are contacted, followed by the gas supplier or distributor. Advice and assistance is also available by calling CHEMTREC. All emergency phone numbers are immediately accessible.

10.0 Training

Compressed gases are handled and used only by employees properly trained in their safe handling and storage. Employees using or handling compressed gases or working in areas where they are exposed to gas cylinders, have adequate knowledge of the container contents. Training on compressed gas cylinders and associated hazards is included in the annual employee right-to-know (ERK) training for affected employees. Records of training are maintained at the district office for a minimum of three years.