

Record No. **18-0435**

FOR ANY EMERGENCY DIAL 630-840-3131 OR ONSITE X-3131

Preparation Date 11/16/2018

Hazard Analysis Form

This form can be used by Fermilab Employees, Fermilab Supervisors, Fermilab Task Managers and Construction Subcontractors. This is a dynamic document which may require modification as the project moves from start to finish and should be readily available at the site where the work is being performed.

Note: Not all sections of the first page are applicable to every job or task, complete what is necessary for your specific job or task.

Job Title: VL06 - CHECK & REPLACE AIR COMPRESSOR

Contract/Change Order #	<input type="text"/>	Work Order#	WO720029
FIMS	<input type="text"/>	Building	<input type="text"/>
PM #	<input type="text"/>		
Job Location	vl06	Equipment #	NL802.1
		Crew	Mechanical

Subcontractor (if applicable)

Fermilab

Company Fluid Aire Dynamics

Project Manager Ed Diner

Phone 800-371-8380 Pager

Cell 847-704-2768

Superintendent

Phone Pager

Cell

ES&H Representative

Phone Pager

ID Number 15634

Project Manager John Pollock

Phone 3363 Pager

Cell 630-659-6211

ID Number 15897N

ES&H Name 15897N

Phone X-4081 Cell 630-873-9597

LRP On-Site Pager

AT LEAST TWO SIGNATURES ARE REQUIRED

Prepared By	Steven Shirley	Date	<u>11/16/2018</u>
Accepted	<input type="text"/>	Accepted	<input type="text"/>
Field Changes	<input type="text"/>	Date	<input type="text"/>

Record No.

Contract/Change Order Number

Work Order#

Job Location v106

Utilizing the format below, identify hazards and safety precautions/procedures to mitigate hazards. Use as many sheets as necessary.

Description of work

VL06 - CHECK & REPLACE AIR COMPRESSOR

Personal Protective Equipment

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Safety Glasses with Side Shields | <input type="checkbox"/> Rubber Apron | <input type="checkbox"/> Confined Space Monitor |
| <input checked="" type="checkbox"/> Safety Shoes - FES Standard | <input type="checkbox"/> Hot Thermal Protective Gloves | <input type="checkbox"/> Anchorage Point >=5K lbs |
| <input type="checkbox"/> Hard Hat | <input type="checkbox"/> Cold Thermal Protective Gloves | <input type="checkbox"/> Personal Retrieval Tripod |
| <input checked="" type="checkbox"/> Hearing Protection | <input type="checkbox"/> Dust Mask | <input type="checkbox"/> Personal Retrieval Jib |
| <input type="checkbox"/> Harness | <input type="checkbox"/> Respirator | <input type="checkbox"/> Rain Gear |
| <input type="checkbox"/> Lanyard | <input type="checkbox"/> Class 0 Gloves | <input type="checkbox"/> Winter Gear |
| <input type="checkbox"/> Retractable Lanyard | <input type="checkbox"/> Class 2 Gloves | <input type="checkbox"/> Dosimetry - Personal (TLD) |
| <input type="checkbox"/> 3.0 Braising Goggles | <input type="checkbox"/> Class 4 Gloves | <input type="checkbox"/> Dosimetry - Pocket |
| <input type="checkbox"/> Face Shield | <input type="checkbox"/> NFPA 70E Coveralls | <input type="checkbox"/> Knee Pads |
| <input type="checkbox"/> Chemical Splash Goggles | <input type="checkbox"/> Switching Hood | <input type="checkbox"/> Flashlight |
| <input type="checkbox"/> Impact Goggles | <input type="checkbox"/> Arc Flash Suit (specify Cal) | <input type="checkbox"/> Skylight - Fall Protection |
| <input checked="" type="checkbox"/> Leather Gloves | <input type="checkbox"/> ODH Monitor | <input type="checkbox"/> Traffic Safety Vest |

Chemical Resistant Glove (specify)

Fall Protection (specify)

Other PPE (specify)

Specialty Tool(s)

Permits/Procedures/Requirements

- | | | | |
|---|--|---|--|
| <input type="checkbox"/> Radiation Work Permit | <input type="checkbox"/> Welding Permit | <input type="checkbox"/> Multiple Energy Source | <input type="checkbox"/> Universal EPA Certification |
| <input type="checkbox"/> Electrical Work Permit | <input type="checkbox"/> Rescue Plan | <input type="checkbox"/> Multiple Personnel | |
| <input type="checkbox"/> Confined Space Permit | <input type="checkbox"/> MSDS | <input type="checkbox"/> Controlled Access | |
| <input type="checkbox"/> Burn Permit | <input checked="" type="checkbox"/> LOTO | <input type="checkbox"/> Supervised Access | |

Environmental Aspects (check one)

Yes, I have thought about the environmental aspects of this job and will document such aspects and mitigation steps within this document.

Yes, I have thought about the environmental aspects of this job and no such credible aspects exist and therefore do not need to be written in this document.

Phase of Work

Safety Hazard

Precaution/Safety Procedures

Access to job site

Bldg. Specific Hazards

Check in with Task Manager/Bldg. Manager/ Area

Record No. 18-0435

Contract/Change Order Number

Work Order# WO720029

		<p>Manager for info. On Bldg. Specific Hazards. Comply with all general safety practices posted in/around the work area.</p>
<p>Throughout Job</p>	<p>Eye injury, Pinch Points, Cuts, Abrasions, Back Injury, Slip-Trip-Falls Hazards. Shock Hazards. Severe Weather, Fire Hazards, bystanders getting injured in work area</p>	<p>Wear proper PPE: Safety glasses, leather/mechanics gloves, long pants, sleeved shirt. Keep hands and or body parts clear of Pinch Points and all areas where assembly/disassembly of equipment could cause injury. When working with metal watch for sharp edges and file off as needed. Stay clear of all suspended loads. Lift with legs not with back. Maintain and or return to neutral spine as much as possible. Bend at the knees not at the waist DO NOT MANUALLY DEAD-LIFT over</p>
		<p>50 lbs. Do not manually carry any items weighing in excess of 50 lbs. If actual weight is not given and or is unknown obtain the weight before lifting. Utilize every means possible to eliminate the need to manually lift/carry/tugging/muscling any items that could potentially exceed fifty lbs. Even up the weight in both hands as to not cause uneven loading to the back. Refrain from twisting, turning and or bending while carrying any loads.</p>
		<p>Watch footing and keep work area floor clear of any obstructions and or spilled liquids, wipe up any spills immediately. Inspect for uneven surfaces to identify any Slip-Trip-Fall Hazards. When utilizing a ladder, inspect ladder before use. Maintain a 4:1 ratio. Maintain three points of contact at all times while climbing. When using a pit ladder or extension ladder ensure ladder extends three feet above surface being accessed.</p>
		<p>When using power tools/drop lights, make sure they have ground and are free of frays on all cords. Use GFCI. No Daisy chaining cords. Clearly mark path of cords. Utilize knee pads as needed to keep from having to remain in a squatted position. Inspect Work site for drop-offs, holes, bumps, debris, slopes, unstable or slippery surfaces, overhead obstructions, hazardous locations, inadequate surface</p>
		<p>loading. Make sure of proper footing, use hand rails-guard rails. Verify locations for severe weather conditions as well as assembly area in event of a fire. Warn Bystanders away from work area. Use safety cones, tape and barricades to establish an unbroken barrier around work area and all associated hazards In any emergency call Fermi National Accelerator Laboratory emergency number from any lab phone at x-3131 or (630) 840-3131 from Cell Phone. Then contact</p>
		<p>task manager Steven Shirley Office 630-840-3007 Cell 630-951-5300 If task manager / supervisor, mentioned above, is not in today obtain alternates contact information If any components contained on equipment being serviced and or any surrounding equipment appear to be worn, defective and or in need of repair. Please obtain</p>

Record No. 18-0435

Contract/Change Order Number

Work Order# WO720029

		<p>information for parts / repairs as needed i.e. make, model, serial, shaft size, rpm's etc. Please record this</p>
		<p>information on work order and in field notes</p> <p>When working around piping and or any structures that are not specifically designed as a walking surface / working platform, walking on and or standing on these items is not allowed</p> <p>Contact task manager / supervisor(s) with any exceptional findings and allow them to decide if any additional repairs will be performed at this time or at a later date</p>
		<p>Steven Shirley Office 630-840-3007 Cell 6360-951-5300</p> <p>The level of LOTO may change if additional work is to be performed</p> <p>MSDS's on the most common used products for this specific job will be attached to the job package, please read and adhere to all safety precautions</p> <p>Fall Restraint is needed for anyone working within 6' of an open pit or fall hazard greater than 4 feet</p>
		<p>Wear harness with proper lanyard, to prevent possibility of a fall</p> <p>Inspect harness and lanyard before use</p> <p>If any equipment / part weight(s) are not known please make note of that information on the attached work order</p> <p>The updated information will be added to this HA and entered in Famis under the unit asset number and will be available for future reference(s)</p>
<p>Human Factors (states that lead to errors):</p> <p>Consider the following human factors that could impact the work:</p>	<p><input type="checkbox"/> <u>Stress (rushing, frustration)</u></p> <p><input type="checkbox"/> <u>Habit patterns, assumptions, complacency</u></p> <p><input type="checkbox"/> <u>Fatigue</u></p> <p><input type="checkbox"/> <u>Lack of knowledge, unfamiliarity w/ task</u></p>	<p><input type="checkbox"/> <u>Distractions, interruptions</u></p> <p><input type="checkbox"/> <u>Changes, departure from routine</u></p> <p><input type="checkbox"/> <u>Unexpected equipment conditions</u></p> <p><input type="checkbox"/> <u>Imprecise communication habits</u></p>
<p>Lock-Out-Tag-Out (LOTO)</p>	<p>Release of Stored Energy (If needed)</p>	<p>Perform and verify LOTO on all energy sources that pertain to the equipment being worked on. Each person working on equipment must apply lock on all equipment being locked out</p> <p>Prior to removal of any fasteners and or fittings, verify all stored energy has been properly released</p> <p>Notify Prepare Isolate Lockout Verify</p> <p>1) Verify all Air and electrical energy sources have been isolated.</p>
		<p>2) Check for and verify possible multiple air and or electrical energy sources have been isolated.</p> <p>Contact building management or their alternate and request upon arrival to job site for assistance on moving any equipment and or questions related to work slated to be performed</p> <p>BM Steve Huey 630-840-8228 Cell 630-352-6109</p>
<p>Check and replace air compressor</p>		<p>1) Replace Air Compressor</p> <p>If utilizing a forklift prior training is required and documented by your Employer</p> <p>Verify that the compressor is secured as to not fall</p>

FOR ANY EMERGENCY DIAL 630-840-3131 OR ONSITE X- 3131

PM #

Record No. 18-0435

Contract/Change Order Number

Work Order# WO720029

		<p>off of the forklift Staged Air Compressor slated to be scrapped where requested by building manager (BM)</p>
<p>Return to service and job site clean up</p>		<p>Return equipment to proper operating mode, contact Supervision if operational mode is unknown Check for proper operation Notify area manager of task completion Clean your work area, dispose of trash in proper receptacle, leave the area as clean or cleaner than when you arrived, a clean work place is a SAFE WORK PLACE</p>
<p>Through out job</p>	<p>Any additional hazards not identified or possible alternatives to performing the work that is contained in this document</p>	<p>Any additional Safety issues, or alternative ideas on performing work, that are not identified in this HA should be mitigated and added to this HA (on the job/in field notes) and or if you are unable to mitigate please contact your Supervisor/Safety officer for direction</p>
<p>Follow up Information</p>		<p>Please add any necessary comments to this job package and or if any parts referenced are not for this equipment, additional parts are required or quantities are incorrect please make note of that information as well on the attached work order and or in the field notes Your help with this JOB PLAN, HA is vital and extremely appreciated and will help us all to achieve our goal of nobody gets hurt Thank You</p>

Record No.

18-0435

FOR ANY EMERGENCY DIAL 630-840-3131 OR ONSITE X- 3131

Hazard Analysis Signature Sheet

FOR ANY EMERGENCY DIAL 630-840-3131 OR ONSITE X- 3131

PM #

Record No.

18-0435

Contract/Change Order Number

Work Order#

WO720029