Approved

ORNL WORK PLAN

Operations, Maintenance and Services

Work Plan Name / Rev: M4898756 / 0
Expiration Date: 11/22/2028

60620

WORK SCOPE/DESCRIPTION	
Requester (Name/Badge/Division):	Pollino, Nicholas / 00964645 / X089
Location of work (Bldg/Rm/Other):	4500S / S103 /
Work Plan Title:	New ethernet drop is needed in S103 to support a second desk.
Description of Service/Work Needed: New ethernet drop is needed in S103 to support a second desk.	
Charge Number, if required:	3X72YY15
Work Plan Grade/Worktype:	3 / 0
Author (Name/Badge):	Pollino, Nicholas / 00964645
File Attachments:	

Badge	Name	Attachment Desc	File Name
00964645	Pollino, Nicholas	QEA	drilling_wall_noise_silica_lead_S107_4500S_pipechase.pdf

INSTRUCTIONS

Prerequisites/Precautions:
-COORDINATE WORK ACTIVITIES WITH THE FACILITY ENGINEER.

-SAMPLE DATA FROM IS&H FOR LEAD AND BERYLLIUM ABOVE THE CEILING:
ROOM S103 AND S107 IS NEGATIVE FOR LEAD AND BERYLLIUM (SID08505,08506,07403,07404)
S107 MIDDLE PIPE CHASE IS NEGATIVE FOR BERYLLIUM (SID16691), POSITIVE FOR LEAD (SID11143)

Directions:
PULL DATA CABLE FROM S103 TO THE HUB IN S107 CENTER PIPE CHASE AND INSTALL A DATA DROP TO SUPPORT A SECOND OCCUPANTS DESK.
WHEN WORKING IN THE PIPE CHASE, DON SHOE COVERS AND NITRILE GLOVES, WET WIPING ANY SURFACES THAT WILL BE DISTURBED.
DOFF PPE, BAG UP AND THROW AWAY IN A SANITARY TRASH DUMPSTER.

Post Work Testing:
ENSURE DATA CABLE PAIRS AND CONNECTORS TEST OUT PROPERLY.

Closeout:
ENSURE THE WORK AREA IS CLEAN AND FREE OF HAZARDS OR SAFETY CONCERNS PRIOR TO LEAVING THE WORK SITE.
MOVE UNUSED MATERIAL/TOOLS TO THEIR DESIGNATED STORAGE AREAS.
PROVIDE FEEDBACK/LESSONS LEARNED TO THE SUPERVISOR FOR WORK CONTROL COMPLETION.

JOB HAZARD EVALUATION

HAZARDS	PERMITS / CONTROLS
Lead: in the pipe chase	Exposure Assessment: Enter or attach justification to classify exposure scenario as low risk, qualitative exposure assessment (QEA), or requirement to conduct quantitative exposure monitoring (QEM): SEE QEA
Elevated Work	Inspecting Ladders Guide [Step & Fixed]: BEFORE EACH USE
Noise: Drilling the wall for mounting a data outlet	Exposure Assessment: Enter or attach justification to classify exposure scenario as low risk, qualitative exposure assessment (QEA), or requirement to conduct quantitative exposure monitoring (QEM): See QEA
Respirable Crystalline Silica: Drilling the wall for a data outlet	Exposure Assessment: Enter or attach justification to classify exposure scenario as low risk, qualitative exposure assessment (QEA), or requirement to conduct

	quantitative exposure monitoring (QEM). Example: QEA required for respirable silica generating construction activities and where Respirable Silica is above action level. Specify. See QEA

DOCUMENTATION REVIEW AUTHORIZATION (Approvals are certification of hazards assessment)		
Reviewer / Approver Roles	Signature	Date
Accountable Management (Service Provider, Line, Equipment Owner, or Facility Management)	Hudey, Bryce D	11/22/2023
IS/IH	Rhyne, Gordon	11/22/2023
System Engineer, Accountable Equipment Owner, or Facility Engineer	Mirocha, Glen	11/22/2023
Task Leader	Hughes, Gary E	11/21/2023
Work Package Concurrence		
Facility Manager		
Operations Supervisor		
Facility Manager Approval To Start Work		
Facility Manager		
Work Start Authorization		
Task Leader		
Work Acknowledged Complete		
Task Leader		
Worker Feedback:		

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PRE-JOB SAFETY REVIEW GUIDE

ID: 60620

Scope of Work: Review work package/plan to ensure all participants understand the work activity.

Hazards: Review the hazards identified in Job Hazard Evaluation (JHE) / work plan (IOP).

- Since the work package / plan was written: 1) Have conditions changed? 2) Are there new hazards? Refer to Field Notes and Focus Areas.

Hazard Controls / Permits: Review:

- Written permits for the work activity.
- Precautions, step warnings, Hold Points ...
- Personal Protective Equipment (PPE)
- Work instructions for information - e.g., steps where hazards are introduced.
- ORNL subject area requirements - e.g., non-permit hazard controls.

Performing Work:

- Discuss group/individual responsibilities for safe & effective work.
- Follow work instructions & safety procedures.
- Availability/location of materials, tools, etc.
- Any previous experiences / lessons learned?
- Response if work cannot be performed as planned.
- What is the worst thing that could happen?
- Are there *Potential error traps* with the job? → →
- Take a minute before: work start & leaving work area.
- Work Hand-off / Turnover - workers & Task Leader

→ Potential Error Traps:

- Time pressures
- Distractive environment
- High workload
- First time evolution
- First day back
- Vague guidance
- Over confidence
- Imprecise communications
- Work stress

Abnormal Situation Response:

- *Stop Work*: Observe an unsafe act, activity or condition that creates an imminent danger.
- *Emergency Response*: Discuss egress paths or other responses if problems are encountered.

Field Notes and Focus Areas: (Use this area as a work space to record notes related to new hazards identified in the field or changed conditions. Record feedback in work package/plan information systems.)

By signing below, I am indicating that I have been briefed on the potential hazards associated with completing this job.

Signature / Badge	Date	Signature / Badge	Date

Qualitative Exposure Assessment – Multiple Hazard Form

Project Information

☐ No QEA is required based upon a review of the type(s) of hazard(s) associated with the activity/task

☐ QEA could not be conducted at the time the RSS/Work Plan was reviewed/approved due to inadequate information provided by the PI, Work Planner/Package author on some or all agent(s)/hazard(s). List the agent(s) for which a QEA could not be conducted: ☐ All Agents (see below) or Specific Agent(s) that could not be assessed: . Discuss controls incorporated into *Work Control* to assure EA is conducted in the future: _____

Process/Job/Task: (SEG/SET Name) Pull a data cable above the ceiling and down to a network hub in the pipe chase.

Work Description: Pull a data cable above the ceiling and down to a network hub in the pipe chase.

Facility #:	4500S	**Room/Lab/Shop #:**	S107 middle pipe chase
Organization:	FMD Central Complex	**RSS/Work Plan #:**	This work plan.

Agents and Control Information

	Process/Job/Task	Agent	Quantity or Magnitude	[1]Potential Routes of Entry	Primary Exposure Forms	Frequency of Exposure	Duration of exposure per exposure Event	[2]Engineering and Administrative Controls	*OEL	Health Severity Rating 1-4	Exposure Rating 1-4	Certainty Rating 1 - 3	[3]QEA Rating 1-24	[4]Exposure Decision
1	Mounting a box for a data outlet.	Noise	<105 dBA TWA	Other	Other	Variable	< 1/2 hour	T, MS	85 dBA TWA	4	4	1	8	Uncertain (8-15)
2	Mounting a box for a data outlet.	Silica	<0.03 mg/m3 TWA	INH	Particulate	Variable	< 1/2 hour	GV, W, P	0.025 mg/m3 TWA	4	3	1	7	Acceptable (2 - 7)
3	Pull data cable into the pipe chase to a data hub.	Lead	>500ug/ft2 avg.	INH	Particulate	Variable	< 1/2 hour	T, P, GV, W	0.05 mg/m3	4	3	1	7	Acceptable (2 - 7)
4														
5														
6														

1. Routes of entry codes: Inh – Inhalation, P – Penetration, Ing – Ingestion, S – Splash; A – Absorption; **2. Engineering Control codes:** GB – Glovebox, GV – General Ventilation, Hood – Other LEV Hood, I/E – Isolate or Enclose Hazard, LH - Lab Hood S – Shielding, W – Wet Methods; **Administrative Control Codes:** T –Training, L/P – Labeling or Postings, P – Written procedure/plan; LT – Limited Stay Time; W/R – Modified Work/Rest Cycle, BEI – Biological Monitoring, MS – Medical Surveillance;
3. QEA Rating = (Health Severity Rating + Exposure Rating) X Certainty Rating; **4. Exposure Decision:** Acceptable (2-7), Uncertain (8-15), Unacceptable (16-24) * Optional field

Exposure Decision and Follow-up

	Acceptable Exposure (LOW RISK)		Uncertain and Unacceptable Exposures			
	Was Agent Hazard Acceptable (Low Risk)?	If yes, describe justification for classification as acceptable	Follow-up Priority	Follow-up Schedule	Is Quantitative Monitoring Required?	Recommendations/Comments
1	NO	Single layer hearing protection with a minimum NRR of 27 will be worn in the work area while drilling wall. >85 dBA but <105 dBA. Use is expected to be of short duration.	Low	_____	NO	
2	YES	Use of approved HEPA Vac.,or wet method, short duration.	Low	_____	NO	
3	YES	The electricians will wear nitrile gloves and shoe covers. They will wet wipe the cable and any surfaces that will be disturbed.	Low	_____	NO	
4	___		_____	_____	___	
5	___		_____	_____	___	
6	___		_____	_____	___	

Additional Comments

Qualified H&S Professional: Gordon Rhyne **Date:** 11/21/23

Qualitative Exposure Assessment – Multiple Hazard Form

QEA Rating Tables

Table 1: Health Severity Rating

Rating		Criteria
HSR		Effects from Over Exposure
1	Negligible	Negligible or **reversible** effects of little concern Note: This applies to chemical agents classified as a *Relatively Harmless Hazard.
2	Minor	Minor or reversible health concern Note: This applies to chemical agents classified as a *Slight Health Hazard. Examples for using this rating for physical agents include: heat fatigue, discomfort from repetitive stress tasks, minor skin burn not requiring medical treatment, etc.
3	Medium	Medium to severe, reversible health concern. Note: This applies to chemical agents classified as a *Moderate Health Hazard. Examples for using this rating for physical agents includes temporary threshold shift in hearing, heat exhaustion, reversible repetitive stress disorders requiring medical intervention, temporary or transient sight impairment, minor skin burns (UV or IR) requiring medical treatment, etc.
4	Major	Major or irreversible health concern. Includes unknown health effects Note: This applies to chemical agents classified as a *High Health Hazard or *Extreme Health Hazard. Examples for using this rating for physical agents include: standard threshold shift in hearing, heat stroke, permanent peripheral nerve or tendon damage, ruptured disc, permanent (total or partial) loss of sight, formation of cataracts, neurological effects, sterility, etc.

*See the Hodge and Sterner toxicity classification scale

Table 2: Exposure Rating**

Rating		Criteria
1	Negligible/Remote	• Little to no exceedance of 10% of the OEL (i.e., 95th percentile exposure estimate is virtually always less than 10% of the OEL) • No signs or symptoms of exposure • There is sufficient quantitative exposure data to judge exposure • Very little skin contact with Agent is expected • Engineering and administrative controls are in place and functioning • Only diluted chemicals are used in the process • Very low intensity of energy source • Short exposure duration • The phase of the chemical does not allow for route of exposure
2	Low/Occasional	• Exposure >5% exceedance of 10% of the OEL (i.e., 95th percentile exposure estimate lies between 10% of the OEL and 50% of the OEL) • No specific signs or symptoms of exposure • Qualitative monitoring indicates insignificant levels of hazard • Only incidental skin contact with Agent • There is exposure potential • Engineering and administrative controls are available but effectiveness is questionable
3	Medium/Probable	• Exposure >5% exceedance of 50% of the OEL (i.e., 95th percentile exposure estimate lies between 50% the OEL and the OEL) • Air concentrations may exceed established action levels • Routine skin contact with chemical is expected
4	High/Likely	• Exposure >5% exceedance of the OEL (i.e., 95th percentile exposure estimate > OEL) • Signs and symptoms are evident • High generation of airborne particles or vapors

** Use of personal protective equipment (including respirators) shall not be taken into account when determining the exposure rating.

Table 3: Certainty Rating

Rating		Criteria
1	**Certain**	The environmental agent's exposure profile and health effects are well-understood. The industrial hygienist has high confidence in the acceptability judgment.
2	**Uncertain**	There is enough information to make a judgment, but further information gathering is warranted to verify the exposure assessment.
3	**Highly Uncertain**	The acceptability judgment was made in the absence of significant information on the exposure profile and/or health effects.

Qualitative Exposure Rating

QEA Rating = (Health Severity Rating + Exposure Rating) X Certainty Rating