

Draft
ORNL WORK PLAN
 Operations, Maintenance and Services
 Work Plan Name / Rev: MWP060678 / 0



60678

WORK SCOPE/DESCRIPTION	
Requester (Name/Badge/Division):	Neal, Mark A / 00909951 / X108
Location of work (Bldg/Rm/Other):	7920 / 015 /
Work Plan Title:	Floor tile removal/replacement in the breakroom at 7920.
<p>Description of Service/Work Needed: The scope of this work package is to remove and replace non-asbestos and asbestos containing floor tile in Building 7920 breakroom.</p> <p>Move equipment and material from the room.</p> <p>Remove the cove base.</p> <p>Remove the existing floor covering using hand tools, mechanical equipment.</p> <p>Install new floor covering.</p> <p>Move removed equipment and material back into the breakroom.</p> <p>Assist with the disposition of the waste.</p>	
Charge Number, if required:	
Work Plan Grade/Worktype:	1 / A
Author (Name/Badge):	Neal, Mark A / 00909951
File Attachments:	
INSTRUCTIONS	
<p>Prerequisites/Precautions: Characterize and manage waste in accordance with subject area. Contact EPO/ECR and WSR IH prior to starting task. Assure applicable/appropriate access and training requirements are identified and adhered to for each of the rooms where work is being conducted. - All work performed in, or in support of radiological facilities not associated with a Category 1, 2, or 3 nuclear facility must be planned and performed in a manner to assure configuration management of all equipment and systems is maintained. - Request review and approval from the complex facility manager when they plan to remove, convert or replace any portion of an electrical, gas, mechanical or plumbing system. - Plan/schedule work with Facility Management or Operations Manager. - Notify affected R&D personnel of the schedule of the work activity in each of the rooms affected. - Request and seek approval for an Asbestos Work Authorization prior to the removal of the floor tile - Plan, conduct, and close out work activities to reduce or eliminate waste and reduce costs. - Obtain Radiological Support Services staff review work plans, request pre-surveys of areas and determine if an RWP will be required to perform the work. If an RWP is required, then workers will be briefed on RWP requirements at the prejob briefing and PPE requirements identified in the RWP will be followed. - Contact WSR when planning the job to help with waste minimization management and identification of potentially hazardous materials. - Ensure that the work area is adequately characterized.</p>	
<p>Directions: Minimum PPE will be company clothing, safety glasses, steel-toed shoes, and gloves. If an RWP is required, the PPE requirements of the RWP will be followed. - Operate in a manner to safely control radioactive materials or radiation emissions during equipment removal. - Contact WSR during removal of equipment when any hazardous or suspect hazardous materials are encountered. WSR will establish a Satellite Accumulation Area for any hazardous waste</p>	
<p>Post Work Testing:</p>	
<p>Closeout:</p>	
JOB HAZARD EVALUATION	

HAZARDS	PERMITS / CONTROLS
Asbestos/Man-Made Mineral Fibers: Asbestos contaminated floor tile	<ul style="list-style-type: none"> Asbestos hazard controls applied: <ul style="list-style-type: none"> i Wet methods i HEPA Vacuum i Prompt Cleanup i Medical Monitoring i Authorization by the Asbestos Program Manager (APM) Training - Asbestos Competent Supervisor Training - Asbestos Worker Training - Asbestos Accreditation Asbestos Management and Tracking System (AMTS) (formerly UCN-13385, Asbestos Work Authorization (AWA)): Follow the requirements on the Asbestos work permit. Use asbestos trained workers to remove asbestos tops from the benches. PPE & Access - Signs or Markings: Regulated Area PPE & Access - Respiratory protection: Specify. Half Face Respirator w/ P100 Cartridges Approved HEPA Vacuum Cleaner Workers must be asbestos worker trained and must be approved to wear full face respirator or PAPR. Task leader must be competent asbestos trained supervisor. IH personnel will provide continuous coverage during floor tile removal task.
Electrical Equipment and Tools: Electrical Shock	<ul style="list-style-type: none"> GFCI required when using corded electrical equipment.
Elevated Work	<ul style="list-style-type: none"> Inspecting Ladders Guide [Step & Fixed]: Inspect ladder before use.
Ergonomic Conditions (Contact Stress, Vibration, Posture, Force, Repetitive Motion): Sprains and strains	<ul style="list-style-type: none"> Diversify activities: When possible perform different tasks to avoid strains. PPE: Specify. Leather or synthetic gloves Worker rotation: Rotate tasks between workers.
Manual Material Handling	<ul style="list-style-type: none"> Establish Controls (Guideline) [apply 30-50-30 criteria for a non-repetitive lifting task] <ul style="list-style-type: none"> i Reduce weight i Decrease load i Design work area i Facilitate access to material i Optimum environment i Reduce distance /Provide proper storage facilities i Load storage i Eliminate manual lifting/lowering i Eliminate pushing/pulling – Use lifting aids i Other instructions to staff : Always lift with your legs and keep back straight. Diversity of activities: Alternate job tasks. Team Lifting (Guideline): When possible use 2 person lift. Consider forklifts or powered industrial trucks: See Power Equipment hazard (formerly Lifting Aides): Use lifting equipment when possible.
Noise: Operating power equipment may cause hearing damage.	<ul style="list-style-type: none"> Hearing protection (plugs or muffs): Selecting Hearing Protection: Wear proper hearing protection when operating loud power equipment.
Chemical/Rec ID 1: A1390 SENTINEL PRODUCTS SENTINEL 747 PLUS MASTIC REMOVER/747 FRESH SCENT MASTIC REMOVER	<ul style="list-style-type: none"> 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)

	<ul style="list-style-type: none"> Gloves: Specify. Safety glasses
Chemical/Rec ID 2: L1441 SENTINEL PRODUCTS SENTINEL 810 ALL SURFACE FLOOR CLEANER	<ul style="list-style-type: none"> 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) Gloves: Specify. Safety glasses
Chemical/Rec ID 3: TARKETT 100 THIN SPREAD ADHESIVE B9543	<ul style="list-style-type: none"> 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)
Chemical/Rec ID 6: Formula 409, MSDS or Rec. No. D9271	<ul style="list-style-type: none"> Gloves: Specify. Nitrile gloves.
Eye hazards: Flying particles when operating power tools	<ul style="list-style-type: none"> Don proper eye protection
Slips, Trips, and Falls	<ul style="list-style-type: none"> Wear proper shoes with good soles. Be aware of slippery surfaces.
HEPA Vacuum use for asbestos	<ul style="list-style-type: none"> Ensure that the HEPA vacuum has an up to date certification prior to use and it is labeled with asbestos and blue PCB < 50 ppm hazard labels.
Cuts and abrasions	<ul style="list-style-type: none"> Wear cut resistant gloves when operating power tools and working around sharp edges.
Potential Knee Injury	<ul style="list-style-type: none"> Knee pads or foam pad required when working from knees for extended period of time.

DOCUMENTATION REVIEW AUTHORIZATION
(Approvals are certification of hazards assessment)

Reviewer/Approver Roles	Signature	Date
Accountable Management (Service Provider, Line, Equipment Owner, or Facility Management)	Nevius Jr, Charles	
Accountable Management (Service Provider, Line, Equipment Owner, or Facility Management)	Schmidlin, Joshua	
Accountable Management (Service Provider, Line, Equipment Owner, or Facility Management)	Weaver, Roger	
Author	Neal, Mark A	
Competent Asbestos Supervisor	Moe, Allison	
IS/IH	Carnahan, Corey	
Other Subject Matter Experts (SMEs)	Stiles, Gregory	
Radiation Protection	Maldonado, Kimberly	
Safety Basis Engineer	Roden, Barrett	
Task Leader	Moe, Allison	
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:

WORK DETAILS - Prerequisites/Precautions

Hazards	Permits/Controls	Resources	Dur
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1) -

-Does this work apply to a Hazard Category 1, 2, or 3 nuclear facility? If yes, do any of the following apply (as determined by a USQ-qualified person)?

1. Is it a physical change? Yes.

2. Is it a change to a procedure or program described in the documented safety analysis? No.

3. Is it a new or revised operation? No.

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2) -

RCT will perform a survey prior to the tile removal and after tile removal to determine waste path of the floor tile. Contact the Task Leader with the survey results.

Waste services will characterize the waste before removal of the tile and mastic.

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3) - Request an Asbestos Work Authorization to support the removal of the floor tile and mastic

-schedule the asbestos workers and other craft needed to perform asbestos work.

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4) -

The following additional items shall be discussed during pre-job brief.

-Corrective maintenance SHALL NOT be performed without approval by the Building 7920 Operations Supervisor.

-Overview of what the associated hazards and controls necessary to perform work safely.

-Impacts the work will have on Building 7920.

-Ensure Building 7920 Operations Supervisor/Designee are briefed on status of work performed.

-If unacceptable results are found, immediately place equipment/work area in a safe condition and notify Building 7920 Operations Supervisor/Designee of problem and

what actions are necessary to return equipment to acceptable condition.

-Discuss the sequence of the work. Tasks may be worked out of sequence or simultaneously at the direction of the Task Lead.

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WORK DETAILS - Directions			
Hazards	Permits/Controls	Resources	Dur
1) - Perform surveys prior to beginning work.		<input type="checkbox"/> Radiation Control Technician	8
2) - Mobilize equipment. Use proper lifting techniques. Use power lifting equipment when possible.		<input type="checkbox"/> Electrician <input type="checkbox"/> Carpenter <input type="checkbox"/> Rigger & Ironworker <input type="checkbox"/> Laborers	4
3) - Move unneeded equipment and material out of the room. Removal of all furnishings in the occupied space is recommended to minimize the amount of clean up once the asbestos tiles have been removed. Critical barriers or adequate engineering controls will need to be used to separate the work area from the common or adjoining space. -Equipment/material can be moved to one side of the room or into a temporary storage area.		<input type="checkbox"/> Laborer	1
4) - Remove wall base.		<input type="checkbox"/> Carpenter <input type="checkbox"/> Laborers <input type="checkbox"/> Radiation Control Technician	40
5) - Stage materials at job site: -Signs, bags, Tyvek suits, shoe covers, cotton liners, rubber gloves, tape -Hand tools, infrared radiant heat tile removal/stripping machine and mechanical equipment. -Pre made plywood box, -6mm roll of plastic -Asbestos HEPA vacuum		<input type="checkbox"/> Carpenter <input type="checkbox"/> Competent Asbestos Supervisor	4
6) - Ensure the Asbestos Work Authorization permit is completed Per FSS-3.1 and at the job site prior to start of work.			

7) - Prepare work area:

-Cover (with 6 mil plastic sheeting) and/or tape open penetrations, door vents, etc.

-If the floor tile removal will be completed in two stages then erect a temporary wall to spilt the room. The temporary wall will need to be adjust to complete the second half of the room.

Carpenter
 Laborer

4

8) - The following steps may be repeated as this task is expected to take several days to complete all tile removal/replacement.

9) - Following Asbestos PPE requirements, enter work area and proceed with tile removal, packaging and clean up tasks.

-When complete, exit work area following proper doffing of PPE.

Carpenter
 Laborer

40

10) - On floor areas where the mastic will be removed perform the following.

-Spray the floor area with the mastic remover solvent.

-Allow the solvent approximately 1 hour to loosen the mastic.

-Using a buffing machine with abrasive pad scrub floor area to remove the mastic.

-Clean floor to ensure all mastic has been removed.

-Repeat this step as needed to remove the mastic from the floor area.

Radiation Control Technician

2

11) - Contact the WSR so that waste can be scheduled for shipment to the landfill.

Box of removed asbestos tile and bagged PPE and/or tools/materials for disposal shall be removed from floor tile removal work area and transported to designated storage area or designated waste container at the discretion of the WSR.

Carpenter
 Project Lead
 Other

4

12) - RCT to perform floor survey prior to proceeding with tasks of the installation of floor tile.

Radiation Control Technician

4

13) - Install new flooring and wall cove base.

Move equipment and material back into place.

		<input type="checkbox"/> Carpenter <input type="checkbox"/> Laborer	8
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WORK DETAILS - Closeout

Hazards	Permits/Controls	Resources	Dur
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1) - Ensure all permits are completed and closed.

Ensure all tools, materials, and waste is appropriately labeled and packaged for storage or disposal.

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2) - Ensure work plan is completed and closed including any feedback. - Contact EPO/ECR and WSR - Characterize and manage waste in accordance with subject area.

		<input type="checkbox"/> Project Leader	0
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3) - Conduct post-job briefing as required and document any lessons learned on NNFD-FRM-058 "Post-Job Review.

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PRE-JOB SAFETY REVIEW GUIDE

ID: 60678

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).

- ε 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:

- ε Written permits for the work activity.
- ε Precautions, step warnings, Hold Points ...
- ε Personal Protective Equipment (PPE)

- ε Work instructions for information - e.g., steps where hazards are introduced.
- ε ORNL subject area requirements - e.g., non-permit hazard controls.

Performing Work:

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

→ **Potential Error Traps:**

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