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Standard Operating Procedure
for

FLOOR TILE REMOVAL PROCEDURE

REVISION

Rev No.	DCN No.	Change Summary	Release Date	DCN Initiator	Document Owner
2	DCN0335	Remove form from document. Add title page, CNSE terminology; and edit for consistency.	9/28/07	J. Trodden	R. Segura

Prior revision history, if applicable, is available from the Document Control Office.

1. PURPOSE AND SCOPE

1.1 The purpose of this document is to define floor tile removal instructions while working at the CNSE Albany Nanotech facility.

1.2 CNSE employees, tenant employees, contractors and sub-contractors are prohibited from raising/replacing floor tiles, unless they are requested and authorized to do so by the area Supervisor / Department Manager.

1.3 In the event of such an authorized request, these work instructions must be followed in order to reduce the likelihood of accidents to personnel and property.

1.4 These work instructions apply to all CNSE employees, tenant employees, contractors and sub-contractors engaged in equipment set up, equipment modification and equipment servicing.

1.5 It establishes the minimum requirement to perform this task.

In the event that these minimum requirements cannot be fulfilled, CNSE employees, tenant employees, contractors and sub-contractors are prohibited from raising or replacing floor tiles.

2. RESPONSIBILITIES

2.1 Floor Tile Lifter

2.1.1 The floor tile lifter is responsible for ensuring that there are two people involved in the removal and replacement of floor tiles unless the position and/or location make this impossible. In this situation, the second person must remain as a buddy to provide assistance, as required.

2.1.2 If the employee is working alone then support from a nearby department must be obtained. NOTE: In low risk situations, where the raised floor is not above a sub fab or above Fab utilities, one person may lift the floor tile providing the weight does not create a manual handling risk. Supervision by a secondary employee is mandatory unless this requirement has been waived on the approval form.

2.1.3 The floor tile lifter is also responsible for completion of the Floor Tile Removal Approval Form (EHS-00032-F1), ensuring that the correct barriers, notification, tethers and fall protection devices, if applicable, are in place prior to receiving approval.

2.2 Secondary Employee

2.2.1 Supervision and/or assistance by a secondary employee during tile removal and replacement is mandatory in the NanoFab North fab or in areas where there is a high risk potential.

2.2.2 The secondary employee must ensure that all personnel working in the immediate area in the clean room and the sub fab are made aware of the tile removal and replacement; and ensure safety devices and working practices are acceptable.

2.3 Supervisor/Department Manager

The Supervisor/Department Manager is responsible for: verifying that the Floor Tile Removal Approval Form (EHS-00032-F1) has been properly completed, and for issuing the approval in a timely manner.

3. ASSOCIATED DOCUMENTS

EHS-00032-F1, Floor Tile Removal Approval Form

4. PROCEDURE

4.1 Request and Approval for Floor Tile Removal

4.1.1 If completion of a task requires removal of a floor tile, this requirement must be made known and approved by the employee's Supervisor / Department Manager using the Floor Tile Removal Approval Form (EHS-00032-F1).

4.1.2 The approval form can be used to cover a range of tasks, such as a one off requirement; equipment set up of multiple systems or the period of a service support contract.

4.1.3 It is prohibited for CNSE employees, tenant employees, contractors and sub-contractors to raise/replace a floor tile without an authorized approval form.

4.2 Floor Tile Removal

4.2.1 Upon receipt of the floor tile removal approval the employee must communicate the hazard to others working in the area; and position barriers and warning signs around the entire hazard area and in the sub fab, if applicable, below the tile to be removed.

4.2.2 The opening must have hard barrier constructed of unistrut or equal, with a top-rail at least 39 inches in height, capable of supporting 200 lbs, a mid-rail set halfway between the top-rail and toe board, capable of supporting 150 lbs and a toe board.

4.2.3 A soft barrier consisting of chains or 'caution' tape and cones can be used in the sub fab or in the fab area, where a falling hazard does not exist. Such barriers must not obstruct walkways or fab entrances / exits unless given permission to do so. Those working in the sub fab must be instructed to wear a hard hat while work is being performed to protect against falling objects.

4.2.4 If one or two tiles are removed, the tiles must be reinstalled before leaving for any reason except in the case of a fab emergency and/or evacuation. If three tiles or more are removed and the individual(s) working in the open floor tile must walk away for any reason such as break, lunch, or getting a tool etc, the opening must remain guarded by barriers and warning signs.

4.2.5 Floor tile lifting tools, specifically designed for the type of tile, must be used to remove and replace tiles.

4.2.6 A tether must be used to prevent floor tiles and/or equipment falling, if such a fall potential risk exists, such as:

- Floor tiles situated above high risk utilities (gas, water, or electric)
- Floor tiles situated over a waffle slab, above a sub floor where there is a drop of more than six (6) feet.
- Floor tiles situated in ergonomically difficult locations.

4.2.7 The removed tile and any associated pieces must be positioned away from the opening so as not to create trip hazards. If this is not possible, then a suitable soft barrier with warning signs must be erected.

4.2.8 Fall protection is required for each individual working over a waffle slab with a sub floor below as in the NanoFab North building. A personal fall protection system includes the following:

4.2.8.1 Full-Body Harness with rear D-ring attachment. Full-body harnesses must be worn snug on the individual. Loosely worn harnesses or ill-fitting harnesses can cause severe injury or death as a result of a fall.

4.2.8.2 Six-foot lanyard (w/shock absorber) or retractable lanyard such as the Miller Mini-Lite or similar apparatus. All lanyards must be equipped with double-locking snap hooks.

4.2.8.3 Use of a designated unistrut bar as anchor point for each individual. Prohibited anchor points include Fab tools, gas or liquid piping, electrical conduit, fire sprinkler piping, floor tile pedestals, and any other structure not previously approved by CNSE EH&S Department.

5. TRAINING

The Supervisor / Department Manager must ensure that those involved in this type of activity are trained to remove and replace floor tiles.

6. RECORDS

Approval forms must be submitted to the EH&S Department office on a monthly basis where they shall be kept on file for a minimum of three years.