

INTERNATIONAL NUTRONICS, INC.



May 2, 1984

Procedure # 28
(Amended)Release of Shielding Block from New Cell

Shielding block from the New Cell shall be removed from areas where excess shielding is no longer required and shall be released for unrestricted use. The following procedure shall act as a precaution against personnel hazards and release of contaminated materials.

A.) Safety of Personnel

1. Entry into the designated restricted areas of the Facility building shall be performed according to Procedure # 14
2. Whole body film badges shall be worn.
3. Gillian air monitors shall be employed to assess airborne contamination in the operations area.
(Respirators will not be required in the Facility building unless air sample analysis quantifies airborne contamination. Levels above 5×10^{-10} microcuries/ml shall require use of respirators.)
4. Leather gloves shall be worn while handling blocks.

B.) Release Criteria

1. Location of instrument surveys is of primary importance with regard to the background radiation levels currently in the building. A location of less than 50 microR/hr will be acceptable for the sampling area. The area on the Northeast roof area of the New Cell is in the range of 20 microR/hr and shall be chosen as the sampling location.
2. Instrumentation to be used in the surveys is as follows; Ludlum Micro-R meter Model 19 # 32871
Wm. B. Johnson GSM PPA-2 # 1405
 - a. The Micro R meter will be used to assess fixed contamination within the block surface and the criteria for release shall be less than 20 micro R/hr over background on contact.
 - b. The Pancake probe (Wm. B. Johnson) shall be used to assess surface contamination and the criteria for release of block shall be less than 180 cpm over background on contact. This instrumentation is calibrated by an Eberline CO-60 plaque source S #S3347 with an efficiency of 20.0 %. This calibration will be checked on a monthly basis. This quantification is capable of assessing for the criteria of 5000 dpm/100cm² fixed contamination.
 - c. At the designated area on the Northeast section of the roof, sections of roller conveyor will be set up to perform the instrument surveys. This

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location shall remain constant.

C. Sampling Procedure

1. Blocks to be sampled will be placed on the rollers and vacuumed by means of a Shop-Vac designated for this purpose. Vacuuming operations shall be performed to reduce the possibility of airborne contamination and removable contamination similar to the system used in the Enclosure. The discharge line will be placed into Building Vent suction.
2. The evaluation by the Ludlum meter will be performed next with the above criteria of 20 microR/hr above background on contact as a rejection level.
3. The final instrumentation check shall be performed by the Pancake Probe and the release criteria shall be below 180 cpm on contact.
4. Once the surveys are complete the blocks will be palletized at 15 per tier 45 per pallet.
5. As a check for removable contamination the first three pallets of block will be smeared as follows;
 - a. At the completion of each tier of block on pallets smears will be taken with rayon fiber material, which is resistant to abrasion of concrete surface of the block. Each layer shall have ten smears taken and shall be counted for 5 minutes individually. The limit for release shall be 750 dpm/100 cm².
 - b. After the first three pallets an assessment of the smear data shall be made prior to initiating release of block by instrumentation surveys alone.
6. Periodically smear surveys will be performed (approximately every 20th pallet) to verify status of removable contamination.

D. Removal of Block from Facility Building

1. Pallets of block deemed releasable shall be taken outside utilizing the forklift and stored there until removed from the premises.
2. At the current time floor smears throughout the facility are at or below background and will continue to be monitored during operations to assess floor contamination. Five smears of floor areas and five smears of the forklift will be performed at the end of each day that operations have been performed. An action level of 500 dpm/100cm² will be used as criteria for cessation of operations and initiation of a remedial action program. Remedial action shall consist of sweeping with floor compound or washing of forklift surfaces including wheels.
3. All pallets used in the operation will be stored outside the building until used.

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4. The forklift shall be used to transport pallets into the building, to remove fully loaded pallets from the building, and to load transportation vehicle.
5. Opening of the large truck door will be minimized and the building vent system will be operational at all times.

E. Rejection of Blocks

1. Blocks not meeting the release criteria of surveys will be quarantined within the facility.
2. Evidence of blocks not meeting criteria shall require assessment for change of personnel safety controls.
3. Blocks not meeting criteria will be remanded to waste containers eventually for disposal as low-level waste.

F. Documentation of Data

1. Surface readings shall be documented as the highest reading on blocks for the entire pallet.
2. Smear surveys shall be recorded on the Smear Data Sheets.
3. Pallets will be inventoried by number.
4. Air monitor results will be recorded.
5. Forklift and floor smear surveys will be recorded on Smear Survey Data Sheets.
6. Operations shall be documented on a daily basis.

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