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THREE MILE ISLAND NUCLEAR STATION
STATION HEALTH PHYSICS PROCEDURE 1686
USE OF PROTECTIVE CLOTHING

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Unit 1 Staff Recommends Approval

Approval NA Date _____
Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval NA Date _____
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Unit 1 PORC Recommends Approval

J.P. O'Hanlon Date 5-12-77
Chairman of PORC

PORC comments of _____ included
(date)

By _____ Date _____

Unit 2 PORC Recommends Approval

J.L. Deering Date 5/16/77
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PORC comments of _____ included
(date)

By _____ Date _____

Approval J.P. O'Hanlon Date 5-18-77
Station Superintendent/
Unit Superintendent

THREE MILE ISLAND NUCLEAR STATION
STATION HEALTH PHYSICS PROCEDURE 1686
USE OF PROTECTIVE CLOTHING

1.0 PURPOSE

This procedure details the steps that must be followed by personnel entering or leaving contaminated areas.

2.0 DISCUSSION

- 2.1 It is often necessary for individuals to enter contaminated areas to perform various tasks. In order to ensure their safety and to prevent the spread of contamination to clean (uncontaminated) areas, protective clothing and respiratory equipment is worn. Equipment used to prevent personnel contamination is referred to as Anti-C equipment (See Section 4.1 below).
- 2.2 Individuals entering or leaving a contaminated area must be extremely cautious to prevent personal contamination as well as spread of the radioactivity to clean areas. To facilitate the individuals, a step-off pad is used to bridge contaminated and uncontaminated areas. Full Anti-C equipment will be worn on the contaminated side and systematically discarded prior to crossing the step-off pad.
- 2.3 Monitoring equipment (Frisker) may be located at the step-off pad so that any exposed portion of the body can be monitored, as well as tools, notebooks or other items being carried from the contaminated area.

3.0 REFERENCES

- 3.1 AP 1003 - Radiation Protection Manual

4.0 EQUIPMENT

- 4.1 Anti-C Equipment
 - 4.1.1 Coveralls
 - 4.1.2 Hoods
 - 4.1.3 Rubber Gloves
 - 4.1.4 Plastic Gloves
 - 4.1.5 Neoprene Gloves
 - 4.1.6 Cotton Gloves
 - 4.1.7 Plastic Shoe Covers
 - 4.1.8 Rubber Boots
 - 4.1.9 Plastic Suits
 - 4.1.10 Beta Shield or Glasses
 - 4.1.11 Surgeon Caps
- 4.2 Respirators
 - 4.2.1 Full Face Mask Airline
 - 4.2.2 Full Face Mask Canister
 - 4.2.3 Half Face Mask Canister
 - 4.2.4 Scott Air Pack
 - 4.2.5 Survivair Pack
- 4.3 Frisker, (RM-14 with Probe)
- 4.4 Step-Off Pad Material
 - 4.4.1 Blotting Paper
 - 4.4.2 Magenta and Yellow Rope
 - 4.4.3 Radiation Signs
 - 4.4.4 Masking Tape
 - 4.4.5 Plastic Bags
 - 4.4.6 55 Gallon Barrels or equivalent
 - 4.4.7 55 Gallon Barrel plastic liners

5.0 OPERATING INSTRUCTIONS

5.1 When an individual is assigned work in a contaminated area, he shall read the RWP for that area.

5.1.1 Pick up the required protection gear provided at the access control area.

5.1.2 Check items for good repair. Any items found to be defective should be returned to the Radiation Protection Personnel and replaced with non-defective equipment.

5.1.3 If required, remove personal clothing (except shoes, stockings and underwear). Also remove watches, rings, etc.

5.2 Dress Procedure for Anti-C Clothing and Equipment

Don appropriate Anti-C equipment as required on RWP in the following sequence:

NOTE: All of the following items may not be required by an RWP.

5.2.1 Don coveralls or lab coat.

5.2.2 Put rubber boots on.

5.2.3 Tape dosimeter and TLD in breast pocket or breast loop. Do not place tape over the beta window.

5.2.4 Don surgeon cap, if required.

5.2.5 Tape all openings of coveralls. When taping, always leave a tab (folded end of tape) for quick removal.

5.2.6 Don hood (if required) and get assistance in taping hood over shoulders.

5.2.7 Put on cotton glove liners.

5.2.8 Put on rubber or plastic gloves over cotton liners. Tape top of gloves to sleeves of coveralls.

- 5.2.9 Inspect respirator (if required on RWP). Be sure to check seal around face piece and head straps for cracks.
- 5.2.10 Carry respirator to work area.
- 5.2.11 Don respirator. Respirator must be worn under protective hood. Adjust for comfortable, snug fit. Check mask for air leaks by pinching inlet hose and inhaling. If the mask collapses, there are no leaks. If further adjustment is necessary, adjust the head straps starting with the bottom ones first.
- 5.2.12 The person is now fully dressed in Anti-C clothing and can proceed with task in the RWP area.

5.3 Undress Procedure for Anti-C Clothing and Equipment

The undress procedure is extremely important in regards to controlling the spread of contamination to areas outside the step-off pad and, possibly, to the individual himself. Upon completion of the designated task (or as the situation requires) the individual will return to the contaminated side of the step-off pad and remove Anti-C's in the following order:

NOTE: DO NOT STEP ON PAD WITH CONTAMINATED OR POTENTIALLY CONTAMINATED SHOE COVERS.

- 5.3.1 Remove all tape by pulling tabs (all potentially contaminated articles will be placed in appropriate containers or areas).
- 5.3.2 Roll outer pair of gloves off hands.
- 5.3.3 Remove respirator by grasping it at the bottom, pulling down, out and back over the head.
- 5.3.4 Remove hood by rolling it off the head.
- 5.3.5 Remove film badge and dosimeter.

- 5.3.6 Unbutton coveralls and remove by rolling them off the shoulders and over the body and legs (keeping contamination inside, if possible).
- 5.3.7 Remove one rubber boot and place that uncovered foot on the step-off pad.
- 5.3.8 Remove other rubber boot and place the other uncovered foot on the step-off pad.
- 5.3.9 Remove cotton gloves by rolling them off the hands.
- 5.3.10 After all Anti-C equipment has been removed, step over to the Frisker.

5.4 Frisking Procedure

- 5.4.1 After the individual has removed Anti-C equipment as required in 5.2, he shall step over to the Frisker and check one hand by placing it $\frac{1}{2}$ " from the face of the detector. (The probe may be contaminated if touched).
- 5.4.2 If the Frisker alarms, call a Radiation Protection Technician for assistance in decontamination.
- 5.4.3 If the Frisker does not alarm, pick up the probe with the monitored hand, keeping the open face of the probe away from the cover of the hand.
- 5.4.4 Monitor the rest of the body, starting with the face and moving slowly downward over the shoulders and chest to the rest of the body. Again, keep the probe approximately $\frac{1}{2}$ " from the monitored surface to prevent possible contamination of the probe. Approximately 45 seconds should be spent in monitoring for contamination.

- 5.4.5 The last area to be monitored is the sole of the shoes.
Monitor this area very carefully to prevent tracking radioactivity to non-contaminated areas.
- 5.4.6 If the Frisker alarms at any time during monitoring, note the area of contamination and notify Radiation Protection Personnel for instructions and assistance in decontamination.
- 5.4.7 After required decontamination, return to the monitoring change area and don personal clothes.

TMI DOCUMENTS

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