

ADVANCED MEDICAL SYSTEMS OPERATING PROCEDURE

ENTERING THE HOT CELL

ISP-11 Rev. 01/95

Page 1 of 3

1.0 PURPOSE: To provide for proper evaluation of the radiation hazard to personnel and to insure that all work performed is planned before exposure takes place.

2.0 PRECAUTIONS AND LIMITATIONS:

2.1 This procedure is to be followed each time the Hot Cell door is opened.

2.2 The Hot Cell is a Restricted Area of high activity. All safety procedures are to be followed in order to keep personnel exposure ALARA.

2.3 This procedure requires a minimum of three (3) individuals.

1. One to enter the Hot Cell.
2. One to act as an assistant.
3. One in the Cell Control Area to monitor activities and time.

2.4 Badges, dosimeter and survey meter should be sealed in plastic bags to prevent contamination.

2.5 The RSO must be physically present to supervise the operation and to verify that the Hot Cell entry operation is reasonably safe to prevent an overexposure.

2.6 No individual should enter the Hot Cell unless they have been adequately trained.

2.7 An RWP is required for all work inside the Hot Cell.

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3.0 INSTRUCTIONS:

3.1 Preparations for an Entry

- 3.1.1 All isotopes must be placed in the shielded floor containers and the container lids put in place.
- 3.1.2 The Hot Cell should be remotely decontaminated as completely as practicable. The remote manipulators are to be used to wipe all accessible areas.
- 3.1.3 Remove all waste that can be passed out through the Hot Cell ports.
- 3.1.4 An air sample should be taken as per ISP-9.
- 3.1.5 Perform a radiation survey of the expected work area(s) using a remote instrument and probe.
- 3.1.6 A plan of action shall be formulated and approved by the RSO. It must include the following:
 - a. The tasks to be performed should be evaluated to minimize personnel exposure.
 - b. Personnel radiation exposure records should be reviewed to insure that the exposure limits of 10CFR20.1201 will not be exceeded. The alarming dosimeters will be set to alarm at an accumulated dose equal to one half (1/2) (4500mrem minus total dose for the year) or as determined by the RSO. When the alarming dosimeter alarms, the individual should immediately leave the Hot Cell and not reenter until the exposure is assessed and a determination is made that it is safe to reenter.
 - c. Individuals will be assigned specific tasks to perform.
- 3.1.7 The plan of action will be reviewed with all participants. As needed, additional training will be offered in the proper techniques to be used as well as in the operation of equipment.

3.2 Opening the Hot Cell

- 3.2.1 Maintain communications via intercom for the complete entry.
- 3.2.2 Open the Hot Cell door. This requires simultaneous operation of the two (2) interlock switches - one on the Hot Cell door and one in the Cell Control Area.
- 3.2.3 Verify radiation levels by taking a survey meter reading at the door opening. If the radiation level is less than 20R/hr, work may proceed.

CAUTION: If the reading is greater than 20R/hr, then the door must be closed immediately and personnel must withdraw to the Isotope Shop Area. Further efforts to remotely decontaminate the Hot Cell will be made. If this fails, all further action must be submitted to and approved by the Chairman of the Isotope Committee.

3.3 Entering the Hot Cell

- 3.3.1 Unless unavoidable, only one individual should be in the Hot Cell at any particular moment.
- 3.3.2 The time that an individual is in the Hot Cell should be monitored by the individual in the Cell Control Area.
- 3.3.3 Personnel should monitor exposure periodically as directed by the RSO.
- 3.3.4 Complete the work assignment.

3.4 Close the Hot Cell Door

- 3.4.1 Protective clothing is to be removed on the contaminated side of the step-off pad.
- 3.4.2 Perform a whole body frisk at determined frisking station.
- 3.4.3 Notify the RSO of any abnormalities.