

ADVANCED MEDICAL SYSTEMS OPERATING PROCEDURE

ISOTOPE TECHNICIAN TRAINING PROGRAM

ISP-31 Rev. 01/95

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- 1.0 PURPOSE: To develop a staff of training individuals capable of assisting the RSO and Isotope Handler by performing routing radiation safety-related checks and measurements.
- 2.0 SCOPE: This program is applicable to all individuals who will work independently in restricted areas at the London Road Isotope Facility for the performance of specified tasks.
- 3.0 OBJECTIVE: Upon completion of training, the candidate will be able to perform the following tasks:
- A. Safety assurance checks specified in ISP-4 and Form 4A.
 - B. Receipt of radioisotope shipping containers.
 - C. Release of packaged radioactive materials for transportation.
 - D. Calibration of survey instruments and meters.
- 4.0 REQUIREMENTS:
- 4.1 The training program shall consist of (1) approximately 3 days of classroom instruction on basic radiation theory and safety practices; (2) approximately 2 days of training on the procedures, methods and precautions required to perform given tasks; and (3) approximately 1 month of on-the-job training.

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Approved by: *R. Meschter*

Date: 1-24-95

- 4.2 A trained health physicist and other qualified instructors, under the direction of the RSO, shall provide the classroom instructions. The job-specific training and the on-the-job training shall be coordinated by the RSO and supervised by the RSO or an approved Isotope Handler.
- 4.3 For the classroom instruction, a written examination(s) shall be administered to determine comprehension of the material presented. The examination(s) shall be prepared, administered and scored by the instructor. The minimum passing grade shall be 80%.
- 4.4 An oral (supported by quiz) walk-through, job performance exam will be administered after completion of the on-the-job training. The examination shall be prepared and administered by the RSO. The minimum passing grade shall be 80%.
- 4.5 A certificate shall be awarded to each candidate who successfully completes the training.
- 4.6 Candidates who do not successfully complete the primary training shall be given additional training and retested.
- 4.7 Refresher training shall be provided on an annual basis and whenever there is a change in duties, procedures or regulations.
- 4.8 Documentation of all training shall be maintained by the RSO.
- 4.9 Prior to assuming duties as an Isotope Technician, the candidate's qualifications must be reviewed and approved by the Isotope Committee.

5.0 PROGRAM OF INSTRUCTION

- 5.1 Basic Radiation Therapy and Safety Practices Course (24 Hours)
- 5.2 Job Specific Training
 - 5.2.1 Radiation Surveys (1.5 Hours)
Knowledge of unrestricted and restricted areas;

Proper selection and operation of portable survey instrumentation;

Notification procedures; proper documentation and posting of areas.

5.2.2 Contamination Surveys (2.5 Hours)

Proper technique for sample collection;

Proper selection of counting equipment;

Smear counting and analysis procedures;

Isolation and proper tagging;

Procedures for performing personnel body contamination checks;

Notification procedures

5.2.3 Instrumentation (2 Hours)

Knowledge in procedures for operation and calibration of survey meters, counting equipment, air monitors;

Inspecting and tagging out inoperative instruments.

5.2.4 Air Monitoring (2 Hours)

Knowledge of operation and proper functioning of the permanent air monitoring system;

Location of sampling lines, use and operation of portable air samplers, inspection of air monitor chart and alarms;

Notification procedures.

5.2.5 Radiation Work Permit Coverage (1.5 Hours)

Obtain adequate information about the job;

Identifying, monitoring, mitigating and controlling direct radiation hazards;

Proper methods for locating and controlling contamination hazards;

Demonstrating proficiency in the use of anti-contamination clothing and respiratory equipment.

5.2.6 Waste Management (1 Hour)

Solid waste generation, handling, packaging for disposal;

Liquid waste management;

Designated waste handling and storage areas;

Notification procedures.

5.2.7 Radioactive Material Receipt/Shipping Procedures (1.5 Hours)

Survey and contamination requirements;

Documentation requirements - inventory control;

Handling and storage procedures, storage areas;

Notification procedures.

5.2.8 Emergency Action Plan (4 Hours)

Familiarization with facility alarm system and response activities of civil agencies;

Knowledge of Emergency Pre-Plan;

Maintenance and testing of emergency generator, fire pump;

Location of potential chemical and radiation hazards.

5.3 On-the-Job Training

5.3.1 Performance of each task as outlined in 3.0 a minimum of two times under supervision.

5.4 Copies of written quizzes, exams and evaluation forms are attached.

5.5 Documentation forms for job specific and on-the-job training are attached.

- 5.6 A certificate of training issued to Isotope Technician candidates who successfully complete the training program is attached.

ISOTOPE TECHNICIAN JOB PERFORMANCE EVALUATION

85 Points

Candidate: _____

Date: _____

RSO: _____

	<u>SATISFACTORY</u>	<u>UNSATISFACTORY</u>
1. Daily Checks	_____	_____
2. Use of Survey Instruments	_____	_____
3. Use of Well Counter	_____	_____
4. Analysis of Wipes	_____	_____
5. Knowledge of Hazards	_____	_____
6. Generator Test	_____	_____
7. Air Monitor Calibration	_____	_____
8. Analysis of Air Samples	_____	_____
9. Gamma Alarm Settings	_____	_____
10. Air Monitor Calibration	_____	_____
11. Receiving Radioactive Material	_____	_____
12. Shipping Radioactive Material	_____	_____
13. Survey and Wipes	_____	_____
14. Calibration of Instruments	_____	_____
15. Application of RWP	_____	_____
16. Emergency Plans	_____	_____
17. Use of Anti-C Clothing	_____	_____
18. Personal Contamination	_____	_____
19. Methods for Reducing Exposure	_____	_____
20. Surface Contamination Limits	_____	_____
21. Decontamination Methods	_____	_____

Comments:

ON-THE-JOB TRAINING RECORD FOR ISOTOPE TECHNICIANS

STUDENT NAME: _____

UNIT #	COURSE IDENTIFICATION	# HOURS	STUDY AIDE	LOCATION/DATE ATTENDED	TESTING RESULTS	STUDENT SIGNATURE	INSTRUCTOR SIGNATURE
ISP 4	Daily Checks						
ISP 2	Unrestricted Area Surveys						
ISP 2	Unrestricted Area Wipes						
ISP 5.1	Emergency Generator Test						
ISP 10	Generator Battery Check						
ISP 7	Air Monitor System						
ISP 6	Gamma Alarm Function						
ISP 6	Contaminated Water Level						
ISP 8	Air Monitor Calibration						
ISP 23	Survey Meter & Dosimeter Calibration						
ISP 13	Receipt of Rad. Material						
	Release of Rad. Material to Carrier						
ISP 2	Restricted Area Surveys						
ISP 2	Restricted Area Wipes						

Isotope Committee Review Date: _____

Comments: _____

Member Officer Signature: _____

STUDENT NAME:

Isotope Committee Review Date:

Member Officer Signature: