

# Advanced Medical Systems, Inc.

121 North Eagle Street • Geneva, Ohio 44041  
466-4671 FAX (216) 466-0186

## CERTIFICATE OF TRAINING

### ISOTOPE TECHNICIAN

This is to certify that \_\_\_\_\_ has successfully completed the Isotope Technician Training Program offered by Advanced Medical Systems, Inc.

The above-named individual has demonstrated to the Advanced Medical Systems, Inc. Isotope Committee that he/she can safely and competently perform the routine radiation safety procedures at the London Road Isotope Facility under U.S. Nuclear Regulatory Commission License No. 34-19089-01.

Signed,

\_\_\_\_\_  
RADIATION SAFETY OFFICER

\_\_\_\_\_  
Date

# ADVANCED MEDICAL SYSTEMS OPERATING PROCEDURE

## ISOTOPE HANDLER TRAINING PROGRAM

ISP-32 Rev. 01/95

Page 1 of 4

- 1.0 PURPOSE: To develop a staff of trained individuals capable of handling sealed and unsealed sources of radioactive material at the London Road facility.
- 2.0 SCOPE: This program is applicable to all individuals who will work independently and/or who can supervise others in restricted areas at the London Road Facility.
- 3.0 OBJECTIVE: Upon completion of training, the candidate will be approved by the USNRC as a qualified Isotope Handler and will be able to safely perform the following tasks:
- A. Operate the hot cell equipment.
  - B. Operate the source storage garden and related equipment.
  - C. Leak test and calibrate sources.
  - D. Install and remove sealed sources from machine heads and source exchange containers.
  - E. Maintain hot cell and related equipment.
  - F. Handle and package radioactive waste.
  - G. Prepare machine head and source exchange container shipping packages.

---

Prepared by: Robert Meschter

Approved by: *R Meschter*

Date: 1-24-95

---

#### 4.0 REQUIREMENTS:

- 4.1 A prerequisite for the job classification is the successful completion of the Isotope Technician Program (see separate program for content).
- 4.2 The training program shall consist of (1) approximately 13 days of job-specific training on the procedures and equipment; and (2) approximately 3 months of on-the-job training.
- 4.3 Both the job specific and on-the-job training shall be coordinated by the RSO and supervised by a qualified Isotope Handler.
- 4.4 Oral and written examinations will be prepared and administered by the RSO. The minimum passing grade shall be 80%.
- 4.5 For on-the-job training, the performance of the candidate will be evaluated and documented by either the RSO or an approved Isotope Handler.
- 4.6 Candidates who are approved by the NRC will be awarded a Certificate of Training.
- 4.7 Candidates will continue their training until all of the above criteria has been met.
- 4.8 Refresher training shall be provided on an annual basis and whenever there is a change in procedures, regulations or the License.

#### 5.0 PROGRAM OF INSTRUCTION

##### 5.1 Prerequisites (15 Hours)

- (1) Successful completion of Isotope Technician Training Program.
- (2) Parts 5.2.1 - 5.2.3 of the Job Specific Training Program for Class 1 Service Engineers.

##### 5.2 Job Specific Training

###### 5.2.1 Isotope Facility Safety Procedures (6 Hours)

Review of ISP-1 Manual

###### 5.2.2 LAB - Hot Cell Equipment (4 Hours)

Familiarization with manipulators and ancillary fixtures, etc.

- 5.2.3 LAB - Source Processing and Transfer (8 Hours)
  - Transfer out of cell;
  - Calibration;
  - Transfer out of Isotope Shop for shipment;
  - Contamination checks.
- 5.2.4 LAB - Storage Garden Operation (6 Hours)
  - Equipment;
  - Radiation hazards and safety.
- 5.2.5 LAB - Decontamination of Areas and Equipment (2 Hours)
  - Action levels and techniques.
- 5.2.6 Solid Waste Management (2 Hours)
  - Collection, packaging;
  - Processing for shipment, storage;
  - Documentation requirements.
- 5.2.7 Hot Cell Entry (1 Hour)
  - Review of procedure ISP-11.
- 5.2.8 Hot Cell Equipment Room (1 Hour)
  - HEPA Filter System;
  - Filter change procedure - ISP-12.
- 5.2.9 London Road Facility Security System (8 Hours)
  - Supervisory system - alarms, equipment;
  - Proper response - troubleshooting;
  - HVAC System;
  - Fire System.

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.

5.3.2 Performance of source transfer procedures a minimum of six times.

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 Handler candidates who successfully complete the training program is attached.

# JOB SPECIFIC TRAINING RECORD FOR ISOTOPE HANDLERS

STUDENT NAME: \_\_\_\_\_

UNIT #	COURSE IDENTIFICATION	# HOURS	STUDY AIDE	LOCATION/DATE ATTENDED	TESTING RESULTS	STUDENT SIGNATURE	INSTRUCTOR SIGNATURE
1	TSP-1 Manual Review						
2	Solid Waste Management						
3	Hot Cell Entry						
4	Hot Cell Equipment Room						
5	Facility Systems						
LAB 1	Hot Cell Equipment						
LAB 2	Source Processing & Transfer						
LAB 3	Storage Garden Operation						
LAB 4	Decontamination						

Isotope Committee Review Date: \_\_\_\_\_

Comments: \_\_\_\_\_

Member Officer Signature: \_\_\_\_\_

ISOTOPE HANDLER TRAINING RECORD

CANDIDATE \_\_\_\_\_

OUTLINE OF TECHNICAL TRAINING AND INSTRUCTION	INSTRUCTOR INITIALS	DATE PERFORMED
1. Work Authorization and Radiation Work Permit Requirements		
2. Use of Radiation Monitoring Equipment		
3. Familiarization with Hot Cell Ventilation System and Safety Interlock System		
4. Transfer of Inert Materials Into Hot Cell		
5. Slave Manipulator System - Use and Dexterity		
6. Purpose and Use of Hot Cell Ancillary Equipment  a) Crane and Electromagnets b) Beam Scales c) Miscellaneous Tools and Fixtures		



CANDIDATE \_\_\_\_\_

OUTLINE OF TECHNICAL TRAINING AND INSTRUCTION	INSTRUCTOR INITIALS	DATE PERFORMED
7. Raising Hot Cell Floor Plug and Accessing Isotopes  a) Floor Plug Removal b) Storage Capsule Identification c) Storage Capsule Removal		
8. Bulk Isotopes Storage and Floor Plug Insertion		
9. Decontamination of Cell Deck		
10. Source Receptacle Loading  a) Use of Source Holder b) Application of Retaining Ring c) Inspection of Retaining Ring		
11. Transfer of source Into Cell Wall		
12. Hot Cell Decontamination and Waste Disposal		



CANDIDATE \_\_\_\_\_

OUTLINE OF TECHNICAL TRAINING AND INSTRUCTION	INSTRUCTOR INITIALS	DATE PERFORMED
13. Securing Hot Cell Equipment		
14. Transfer of Source to Transfer Monster from Cell Wall		
15. Source Transfer Between Transfer Monster and Source Exchange Container		
16. Source Transfer Between Exchange Container and Calibration Head		
17. Source Calibration and Documentation		
18. Source Surface Contamination Inspection		

CANDIDATE \_\_\_\_\_

OUTLINE OF TECHNICAL TRAINING AND INSTRUCTION	INSTRUCTOR INITIALS	DATE PERFORMED
19. Source Transfer Between Machine Head and Exchange Container		
20. Packing/Unpacking of Machine Head and Source Exchange Shipping Container		
21. Operation of Source Storage Garden		
22. Hot Cell Machinery Maintenance		
23. Solid Waste Packaging		

# Advanced Medical Systems, Inc.

17 North Eagle Street • Geneva, Ohio 44041  
(2) 466-4671 FAX (216) 466-0186

## CERTIFICATE OF TRAINING

### ISOTOPE HANDLER

This is to certify that \_\_\_\_\_ has successfully completed the Isotope Handler Training Program offered by Advanced Medical Systems, Inc.

The above-named individual has demonstrated to the Advanced Medical Systems, Inc. Isotope Committee that he/she can safely and competently perform the duties necessary in full compliance with the procedures and conditions of U.S. Nuclear Regulatory Commission License No. 34-19089-01.

Signed,

\_\_\_\_\_  
RADIATION SAFETY OFFICER

\_\_\_\_\_  
Date