CLASS 1 SERVICE ENGINEER TRAINING PROGRAM

1.0 PURPOSE: To develop a staff of trained individuals capable of installing, removing, and exchanging sealed isotope sources and conducting maintenance services requiring the removal of sources.

2.0 SCOPE: This program is applicable to all individuals who will work independently on teletherapy or radiography equipment at customer facilities in accordance with proper source handling procedures.

3.0 OBJECTIVES: Upon completion of training, the candidate will be approved by the USNRC as a qualified source handler and will be able to perform the following tasks:

A. Source exchanges required to install sources into customer equipment.

B. Source exchanges necessary to perform routine five year inspections of customer equipment.

C. Source removal necessary to decommission existing equipment.

4.0 REQUIREMENTS

4.1 A prerequisite for this job classification is the successful completion of the Class 2 Service Engineer training program (see separate program for content).

4.2 The training program shall consist of:

(1) approximately 2 days of job specific training on the procedures and equipment

(2) at least 3 actual source exchanges involving loaded heads

4.3 The job specific training shall be coordinated by the RSO and supervised by either a qualified Class 1 Service Engineer or an Isotope Handler. The on-the-job (field) training shall be coordinated by the RSO and supervised by an NRC qualified Class 1 Service Engineer or a licensed Isotope Handler.

4.4 For the job specific training, an oral and written exam(s) will be prepared by the RSO and administered at the end of the instruction. 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 an approved service engineer. This documentation will be submitted to and retained by the RSO.

4.6 Upon completion of all facets of this program, the RSO will submit the candidate's name and qualifications to the Isotope Committee. Upon approval of the Isotope Committee, the candidate's name and qualifications will be submitted to the U. S. NRC for approval.

4.7 Candidates who are approved by the NRC will be awarded a certificate of training. In addition, the individual will be issued an identification badge or wallet card which includes Company name and address, individual's name, NRC license number, and a statement of authorization to perform service. AMS retains the right to change the format of this identification.

4.8 Candidates will continue their training until all of the above criteria has been met.

4.9 Refresher training shall be provided on an annual basis and whenever there is a change in procedures, regulations, or the license.

4.10 Documentation of all training shall be maintained by the RSO.

5.0 PROGRAM OF INSTRUCTION

5.1 Prerequisite - Successful Completion of Class 2 Service Engineer Training Program

5.2 Job Specific Training

The job specific training outlined below will be conducted at the Geneva or Cleveland facilities of Advanced Medical Systems utilizing actual machines and equipment.

5.2.1 Classroom Session (3 hours)

Review of exchange procedures (ISP-23 and ISP-24)

Radiation hazards associated with the procedures

Design and use of source exchange containers

5.2.2 Laboratory Exercise (8 hours)

Operation and use of exchange container

Trapping and exchange of dummy sources

Trapping and exchange of live sources

Radiation Safety practices

5.2.3 Packaging sources for transportation (4 hours)

Design and use of 18136l container

Installation Tool kit

Labeling and QA checklist

5.2.4 Five Year Inspections (1 hour)

Documentation Review

5.3 On-the-job Training

5.3.1 Performance of each task as outlined in 5.2.2 - 5.2.4 a minimum of three 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 Class 1 Service Engineer candidates who successfully complete the training program is attached.

ANNUAL REFRESHER TRAINING PROGRAM

1.0 PURPOSE: To meet training requirements in accordance with 10CFR19.12

2.0 SCOPE: This program is applicable to all individuals who work independently as Service Engineers, Isotope Technicians, and Isotope Handlers

3.0 OBJECTIVES: Upon completion of training, the individual will have reviewed fundamental radiation safety, current procedures and practices, license status and conditions, DOT and NRC regulations, job specific problems.

4.0 REQUIREMENTS

4.1 The training will consist of approximately 8 hours of instruction and review.

4.2 The instructor will be the RSO.

4.3 An oral or written examination as well as observation of hands on activities will be used to determine comprehension of the material presented. If the RSO determines that comprehension is not sufficient, provisions will be made for individual training in the deficient areas.

4.4 Individuals who complete the training will be issued a certificate of training which will generally outline the topics discussed.

4.5 Documentation of all training will be maintained by the RSO.

5.0 Program of Instruction

5.1 Radiation Theory

Isotopes

Types of radiation

Biological effects

Units of measurement

5.2 Radiation Protection Standards

Review of current regulations

Signs and labels

License status, conditions

Personnel exposure (actual vs. reg. limits)

5.3 Radiation Protection Methods

Use of instruments

Review of stay time, inverse square law, shielding

5.4 Specific procedures

Review of all change/modifications in procedures

Training in all new procedures

Comment and discussion period regarding procedural changes

Review emergency procedures

5.5 Packaging and Transportation

Review proper package selection

DOT labeling, marking, placarding, shipping papers

Review DOT/NRC regulations

Packing and unpacking instructions

5.6 Job Specific Problems

Round table discussion within each job category regarding common problems, unusual situations encountered, etc.

Discussion of corrective action measures

Review of unauthorized field modification reports

Review observations from audits

Scenarios - discussion of response with regard to personal and radiation safety

5.7 Hands on Activities

Survey instrument use

Emergency procedures - mock drills (e.g., stuck shutter)

Examination of teletherapy equipment modifications (AMS engineering changes)

Contaminated source head, off scale dosimeter

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

03 0160 55
03 214
10/86

BETWEEN: William O. Miller, Chief
License Fee Management Branch
Office of Administration

Regional License Section
Material Licensing Branch
FCMS, Office of Nuclear Material
Safety & Safeguards

LICENSE FEE TRANSMITTAL

A. REGION III

1. APPLICATION ATTACHED

Applicant/Licensee: Advanced Medical Systems, Inc.

Application Dated: 7/7/87

Control No.: CONTROL NO. 83822

License No.: 34-19089-01

2. FEE ATTACHED

Amount: 170.00

Check No.: 014200

3. COMMENTS

Signed [signature]

Date 7/13/87

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: 3B 3P 3N 2F

2. Correct Fee Paid. Application may be processed for:

Amendment ✓

Renewal _____

License _____

Signed [signature]

Date 7/17/87