

ADVANCED MEDICAL SYSTEMS OPERATING PROCEDURE

ALARA PROGRAM

ISP-14 Rev. 1/95

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1.0 PURPOSE: AMS is committed to keeping exposures (individual and collective) As Low As Reasonably Achievable (ALARA). In accord with this commitment, we hereby describe an administrative organization for radiation safety. The organization will include an Isotope Committee and a Radiation Safety Officer (RSO).

2.0 PRECAUTIONS AND LIMITATIONS:

2.1 Modifications to operating and maintenance procedures and to equipment and facilities will be made where they will reduce exposures unless the cost, in our judgement, is considered to be unjustified. We will be able to demonstrate, if necessary, that improvements have been implemented where reasonable. Where modifications have been recommended but not implemented, we will document the reasons for not implementing them.

2.2 In addition to maintaining doses to individuals as far below the limits as is reasonable achievable, the sum of the doses received by all exposed personnel will also be maintained ALARA. It would not be desirable, for example, to hold the highest doses to individuals to some fraction of the applicable limit if this involved exposing additional people and significantly increasing the sum of radiation doses received by all involved individuals.

2.3 We will inform our personnel of our commitment to the ALARA concept.

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Approved by: *R. Meschter*

Date: *1-24-85*

RADIOACTIVE MATERIAL RECEIPT

ISP-13A

R# _____

Carrier Name: _____ Trailer No.: _____

Name of Shipper: _____

City of Origin: _____

RADIATION SURVEY

_____ mR/hr on contact (200mR/hr maximum)

_____ mR/hr @ 1 meter from surface (10mR/hr maximum)

CONTAMINATION CHECK

Container surface _____ dpm/100ccm² (220 maximum)

Truck bed _____ dpm/100cm² (220 maximum)

ISOTOPE RECORD

Isotope Name: _____ Form: _____

Curies _____ on _____

RECORDS

Container Type: _____ Container Ser.#: _____

Source Cat.#: _____ Source Serial or Capsule #: _____

COMMENTS: _____

Received by: _____ Date: _____

Reviewed by RSO: _____ Date: _____

3.0 INSTRUCTIONS:

3.1 Isotope Committee

- 3.1.1 The Isotope Committee should include representatives from management, safety, engineering, purchasing and the RSO.
- 3.1.2 The Isotope Committee should meet quarterly.
- 3.1.3 Duties and responsibilities.
 - a. Be familiar with all pertinent NRC regulations, the terms of the license, its amendments and supporting documents.
 - b. Determine the need for license amendments, review the content of all proposed amendments and insure that the license is amended prior to implementation of changes.
 - c. Review and approve all requests for purchase and use of radioactive material within the company.
 - d. Review the qualifications of all individuals who use radioactive material to insure that they are capable of performing their duties safely and in accordance with the regulations and the conditions of the license.
 - e. Delegate to the RSO the authority to enforce safe plant operation and the ALARA Program.
 - f. Support the RSO in those instances where it is necessary to assert his authority. Where the RSO has been overruled, the Isotope Committee will record the basis for action in the minutes of the quarterly meeting.
 - g. Encourage all employees to review current procedures and develop new procedures, as appropriate, to implement the ALARA concept.

- h. Perform a quarterly review of occupational radiation exposure. The principal purpose of this review is to assess trends in occupational exposure as an index of the ALARA Program quality and to decide if action is warranted.
- i. Evaluate the company's overall efforts for maintaining exposures ALARA on an annual basis. This review will include the efforts of the RSO, authorized users and workers as well as those of management.
- j. Recommend remedial action to correct any deficiencies identified in the radiation safety program.
- k. Maintain written records of all committee meetings, actions, recommendations and decisions. The RSO should retain the records.
- l. Relative to the isotope operation, approve all new operating procedures or changes to existing operating procedures.

3.2 Radiation Safety Officer (RSO)

- 3.2.1 The RSO shall have knowledge of the origin of radiation exposures in the facility.
- 3.2.2 Periodic reviews.
 - a. Perform an annual review of the radiation safety program for adherence to ALARA concepts. Reviews of specific procedures may be conducted on a more frequent basis.
 - b. Review at least quarterly the radiation exposures of authorized users and workers to determine that their exposures are ALARA.
 - c. Review radiation level survey records quarterly. The RSO will review the radiation levels in Controlled and Restricted Areas to determine that they were at ALARA levels during the previous quarter.

- 3.2.3 Education responsibilities for ALARA Program.
- a. The RSO will schedule briefings and educational sessions to inform workers of ALARA Program efforts.
 - b. The RSO will ensure that authorized vendors, workers and ancillary personnel who may be exposed to radiation will be instructed in the ALARA philosophy and informed that management, the Isotope Committee and the RSO are committed to implementing the ALARA concept.
- 3.2.4 Cooperative efforts for development of ALARA procedures.
- a. The RSO will be in close contact with all users and workers in order to develop ALARA procedures for working with radioactive materials.
 - b. The RSO will establish procedures for receiving and evaluating the suggestions of individual workers for improving health physics practices and will encourage the use of those procedures.
- 3.2.5 Reviewing instances of deviation from good ALARA practices.
- a. The RSO will investigate all known instances of deviation from good ALARA practices, and if possible, will determine the causes. When the cause is known, the RSO will evaluate changes in the program to maintain exposures ALARA.
- 3.2.6 Equipment and supplies.
- a. The RSO is responsible for insuring that proper equipment and supplies are available, maintained in good working order and are used properly.

3.3 Persons Who Receive Occupational Radiation Exposure

- 3.3.1 The workers will be instructed in the ALARA concept and its relationship to working procedures and work conditions.
- 3.3.2 The workers will know what recourses are available if they feel that ALARA is not being promoted on the job.