

I. Management Commitment

- A. We, the management of this hospital, are committed to the program described in this paper for keeping exposures (individual and collective) As Low As is Reasonably Achievable (ALARA). In accord with this commitment, we hereby describe an administrative organization for radiation safety and have developed the necessary written policies, procedures, and instructions to foster the ALARA concept within our institution. The organization includes a Radiation Safety Committee (RSC) and a Radiation Safety Officer (RSO).
- B. We will perform a formal annual review of the radiation safety program including ALARA considerations. This shall include reviews of operating procedures and past exposure records, inspections, etc., and consultations with the radiation physics consultant and with the radiation protection staff.
- C. modification 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 modifications have been considered; and that they have been implemented where reasonable. Where modifications have been recommended but not implemented, we will be prepared to describe the reasons for not implementing them.
- D. In addition to maintaining doses to individuals as far below the limits as is reasonably achievable, the sum of the doses received by all exposed individuals will also be maintained at the lowest practicable level. 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.

II. Radiation Safety Committee (RSC)

A. Review of Proposed Users and Uses

1. The RSC will thoroughly review the qualifications of each applicant with respect to the types and quantities of materials and uses for which he has applied to ensure that the applicant will be able to take appropriate measures to maintain exposure ALARA.
2. When considering a new use of byproduct material, the RSC will review the efforts of the applicant to maintain exposure ALARA. The user should have systematized procedures to ensure ALARA and shall have incorporated the use of special equipment such as syringe shields, rubber gloves, etc., in his proposed use.
3. The RSC will ensure that the user justifies his procedures and that doses will be ALARA (Individual and collective).

B. Delegation of Authority

1. The RSC will delegate authority to the RSO for enforcement of the ALARA concept.
2. The RSC will support the RSO in those instances where it is necessary for the RSO to assert his/her authority. Where the RSO has been overruled, the Committee will record the basis for its action in the minutes of the Committee's quarterly meeting.

C. Review of ALARA Program

1. The RSC will encourage all users to review current procedures and develop new procedures as appropriate to implement the ALARA Concept.
2. The RSC will perform a quarterly review of occupational radiation exposure with particular attention to instance where Investigational Levels in Table 1 below are exceeded. 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 when Investigational Levels are exceeded (See Section VI).
3. The RSC Will evaluate our institution'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.

III. Radiation Safety Officer (RSO)

A. Annual and Quarterly Review

1. The RSO will 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.
2. The RSO will review at least quarterly the external radiation exposures of authorized users and workers to determine that their exposures are ALARA in accordance with the provision of Section VI of this program.
3. The RSO will review radiation levels in unrestricted and restricted areas to determine that they were at ALARA levels during the previous quarter.

B. Education Responsibilities for ALARA Program

1. The RSO will schedule briefings and educational sessions to inform workers of ALARA program efforts.
2. The RSO will ensure that authorized users, workers, and ancillary personnel who may be exposed to radiation will be instructed in the ALARA philosophy and informed that management, the RSC, and RSO are committed to implementing the ALARA concept.

C. Cooperative Efforts for Development of ALARA Procedures

Radiation workers will be given opportunities to participate in formulation of the procedures that they will be required to follow.

1. The RSO will be in close contact with all users and workers in order to develop ALARA procedures for working with radioactive materials.
2. The RSO will establish procedures for reviewing and evaluating the suggestions of individual workers for improving health physics practices and will encourage the use of those procedures.

D. Reviewing Instances of Deviation from Good ALARA Practices

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 require changes in the program to maintain exposures ALARA.

IV. Authorized Users

A. New Procedures Involving Potential Radiation Exposures

1. The authorized user will consult with, and receive the approval of, the RSO and/or RSC during the planning stage before using radioactive materials for a new procedure.
2. The authorized user will evaluate all procedures before using radioactive materials to ensure that exposures will be kept ALARA. This may be enhanced through the application of trial runs.

B. Responsibility of Authorized User to Persons Under His/Her Supervision

1. The authorized user will explain the ALARA concept and his/her commitment to maintain exposures ALARA to all persons under his/her supervision.
2. The authorized user will ensure that persons under his/her supervision who are subject to occupational radiation exposure are trained and educated in good health physics practices and in maintaining exposures ALARA.

V. Persons Who Receive Occupational Radiation Exposure

- A. The worker will be instructed in the Alara concept and its relationship to working procedures and work conditions.
- B. The worker will know what recourses are available if he/she feels that ALARA is not being promoted on the job.

VI. Establishment of Investigational Levels In Order to Monitor Individual Occupational External Radiation Exposures

This institution hereby establishes Investigational Levels for occupational external radiation exposure which, when exceeded, will initiate a review or investigation by the RSC and/or the RSO. The Investigational levels that we have adopted are listed in Table 1 below. These levels apply to the exposure of individual workers.

The Radiation Safety Officer will review and record on Form NRC-5. "Current Occupational External Radiation Exposures" or an equivalent form results of personnel monitoring not less than once in any calendar quarter as required by 20.401 of 10 CFR Part 20. The following actions will be taken at the Investigational Levels at stated in Table 1:

VI. A. Quarterly exposure of individuals to less than Investigational Level I.

Except when deemed appropriate by the RSO, no further action will be taken in those cases where an individual's exposure is less than Table 1 values for the Investigational Level I.

B. Personnel exposures equal to or greater than Investigational Level I, but less than Investigational Level II.

The RSO will review the exposure of each individual whose quarterly exposures equal or exceed investigational Level I and will report the results of the reviews at the first RSC meeting following the quarter when the exposure was recorded. If the exposure does not equal or exceed Investigational Level II, no action related specifically to the exposure is required unless deemed appropriate by the Committee. The Committee will, however, consider each such exposure in comparison with those of others performing similar tasks as an index of ALARA program quality and will record the review in the Committee minutes.

C. Exposure equal to or greater than Investigational Level II.

The RSO will investigate in a timely manner the cause(s) of all personnel exposures equaling or exceeding Investigational Level II, and, if warranted, will take action. A report of the investigation, actions taken, if any, and a copy of the individual's Form NRC-5 or its equivalent will be presented to the RSC at the first RSC meeting following completion of the investigation. The details of these reports will be recorded in the RSC minutes. Committee minutes will be sent to the management of this institution for review. The minutes, containing details of the investigation, will be made available to the NRC inspectors for review at the time of the next inspection.

D. Reestablishment of an individual occupational worker's Investigational Level II to a level above that listed in Table 1

In cases where a worker's or a group of workers' exposures need to exceed Investigational Level II, a new, higher Investigational Level II may be established on the basis that it is consistent with good ALARA practices for that individual or group. Justification for a new Investigational Level II will be documented.

- VI. D. The RSC will review the justification for, and will approve or disapprove, all revisions of Investigational Level II. In such cases, when the exposure equals or exceeds these established Investigational Levels, those actions listed in paragraph VI.C above will be followed.

TABLE I

INVESTIGATIONAL LEVELS
(mRems per calendar quarter)

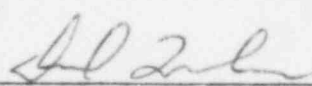
	<u>LEVEL I</u>	<u>LEVEL II</u>
1. Whole body, head and trunk; active blood-forming organs; lens of eyes; and gonads	125	375
2. Hands and forearms; feet and ankles	1875	5625

Membership of the Radiation Safety Committee is:

1. Earle Stine, Jr. M.D., R.S.O.
2. Ken Cofer, Chief of Nuclear Medicine
3. David Turnbo, Associate Administrator
4. Rick Tolbert, Chief of Radiology
5. Director of Nursing
6. Michael D. Morris, C.H.P., Consultant Physicist

VIII. Signature of Certifying Official

I hereby certify that this institution has implemented the ALARA program set forth above.



Signature

David Turnbo

Name (type or print)

Associate Administrator

Title

INSTITUTION: Name and address

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