

III. ADMINISTRATIVE CONTROL AND RADIOLOGICAL PROTECTION PROCEDURES

A. Responsibility for Control of Byproduct Material

- 1. Person directly responsible for use of radiographic sources: Dr. Danforth R. Hale, Head, Semiconductor Section.
- 2. Person having authority to issue or change operating instructions: Dr. Danforth R. Hale, Head, Semiconductor Section.
- 3. Persons to be notified in event of an emergency: Dr. Danforth R. Hale, Head Semiconductor Section, Dr. Richard L. Taylor, Plant Physician, Eldred A. Gentry, Personnel Manager.
- 4. Person directly responsible for overall radiation protection program: Eldred A. Gentry, Personnel Manager.

B. Operating Instructions

- 1. Control of exposure of radiographic personnel and others to radiation.
 - a. Maximum permissible exposure limits for radiological personnel shall be 300 mr/wk. from Cobalt 60.
 - b. Maximum permissible exposure limits for non-radiological personnel shall be 30 mr/wk. from Cobalt 60.

2. Personnel Monitoring.

Bi-weekly film badge service, through R. S. Landauer, Jr. & Company, 24 Plaza, Park Forest, Illinois, will be provided for radiological personnel.

Victorean Pocket Chambers with a sensitivity range of OR to 0.2R will be provided for radiological personnel.

3. Radiation Surveys.

Radiation surveys will be made with a Geiger Counter each time a radiological setup is made to make certain that the dose rate at the rope barrier and the doors to the autoclaves is not in excess of 5.0 mr/hr. The dose rates will be included in the records of the radiological setups.

Radiation surveys of the concrete storage vault and of the combination exposure devices portable containers will be made at monthly intervals to make certain that the maximum permissible dose rates of 300 mr/wk for radiological personnel and 30 mr/wk for non-radiological personnel are not being exceeded.

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4. Use of Special handling equipment.

No special handling equipment is used because the Cobalt 60 sealed sources are never taken from the combination exposure devices portable containers.

5. Radiation warning signs.

The radiation hazard warning sign provided for each autoclave room will be hung over the autoclave room door and the rope barrier will be installed while a radiographic exposure is being made.

The person in charge of the radiographic exposure will remain in attendance while it is being made to warn non-radiological personnel of the radiation hazard.

6. Instruction of personnel.

The person responsible for the Cobalt 60 sealed sources will personally instruct radiological personnel and non-radiological personnel in the area of the hazards associated with excessive exposure to radiation.

7. Security of source.

The Cobalt 60 sealed sources are to be kept in combination exposure devices portable containers which are stored in a concrete pit sunk in the ground when they are not being used for a radiographic exposure. The concrete cover of the concrete storage vault is not to be removed except by the specific instructions of the person in charge of the Cobalt 60 sealed sources. The person in charge of any radiographic exposure will remain in attendance during the entire time of the exposure.

8. Storage of source.

The Cobalt 60 sealed sources are kept in combination exposure devices portable containers which are stored in a concrete storage vault sunk into the ground when they are not being used for radiographic exposures.

Radiation hazard warning signs are posted over the storage vault.

9. Transporting of source.

No cobalt 60 sealed source is to be transported other than in a combination exposure device portable container and then only between the concrete storage vault and an autoclave room. No such transporting is to be done except by specific instructions of the person in charge of a radiographic exposure.

10. Emergency procedures.

In the event of an emergency involving a Cobalt 60 sealed source, the person in charge of the radiographic exposure will have all persons in the vicinity of the accident moved away a safe distance.

He will then notify the following persons:

Dr. Danforth R. Hale - Telephone 355
Dr. Richard L. Taylor - Telephone CE 1-6200
Eldred A. Gentry - Telephone 226

C. Revision of Radiological Protection Procedures

These procedures will be reviewed at periodic intervals. No changes in operating procedures are to be made except by the specific instructions of Dr. Danforth R. Hale.