Muskogee Regional Medical Center
ATTN: Douglas C. Johnson
Administrator
300 Rockefeller Drive
Muskogee, Oklahoma 74401

MAR 26 1986

Docket No. 030-11571
License No. 35-13157-02
Control No. 460978

Gentlemen:

This is to acknowledge receipt of your application for renewal of the byproduct material license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Any correspondence regarding the renewal application should reference the control number specified and your license number.

Sincerely,

"Original Signed by:
J. A. MARSHALL" for

R. J. Everett, Chief
Nuclear Materials Safety Section

NMSS JAM
JAMarshall;df
3/26/86

C:NMSS RJE
RJEverett
3/26/86

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

03011571
02300
4186

RECEIVED
MAR 24 1986

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

R. J. Everett, Chief
Material Radiation Protection Section, TPB,
DV&TP, RIV

LICENSEE FEE TRANSMITTAL

A. REGION IV

1. APPLICATION ATTACHED

Applicant/Licensee: Muskogee Reg. Med. Ctr.

Application Dated: March 7, 1986

Control No.: 460978

License No.: 35-13157-02 (030-11571)

2. FEE ATTACHED

Amount: —

Check No.: —

3. COMMENTS

Signed Laura Hurley

Date March 11, 1986

B. LICENSEE FEE MANAGEMENT BRANCH

FEE EXEMPT

1. Fee Category and Amount: Ex 7A

Code 16

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

Amendment _____

Renewal ✓

License _____

Signed M Jackson

Date 3/18/86

Muskogee Regional Medical Center
License #35-13157-02
License Renewal Application

The format of this application is as specified in "Guide for the Preparation of Applications for Licenses in Medical Teletherapy Programs" dated March, 1982.

1a. Name and address of applicant
Muskogee Regional Medical Center
300 Rockefellar Drive
Muskogee, Oklahoma 74401
918-682-5501

1b. Byproduct material used at the above address.

2. Person to contact regarding this application.
Jerry Holland, R.T.T.
Radiation Therapy Department Supervisor
918-682-5501 ext.297

3. This is a renewal application for license #35-13157-02.

4. Individual users to be listed on the license
Lawrence M. Cibula, M.D.
George H. Ladd, M.D.
Gary G. Evans, M.D.

5. Radiation Safety Officer
George H. Ladd, M.D.

6. Sealed sources to be used in teletherapy equipment.
Cobalt-60 manufactured by AECL. Model Nos. C-146 or C-151.
Maximum Activity-21000 Curies in two sources.

7. Teletherapy Unit
AECL Theratron 780

8. Use
Human use.

9. Film badges are supplied by Siemens and are changed monthly.

10.a. Radiation Safety Committee Membership

Membership of the Radiation Safety Committee is attached.

License Fee Information on p.3.

460978

10.b. Responsibilities of the Radiation Safety Committee are attached.

11. Training and Experience of authorized users.
Drs. Cibula, Ladd, and Evans are currently byproduct material users on this license.

12. Instrumentation
a. Survey meters
1. Victoreen Model 740-F, Two instruments, Min. 0-25 mR/hr. Max. 0-25,000mR/hr.

2. Victoreen Model CDV-700, one instrument, min. 0-.5 mR/hr. max. 0-50 mR/hr.

b. Beam on monitor
Victroeen Model 850 Gamma Alarm Monitor, one instrument, back-up battery.

Survey meters are calibrated by Michail D. Morris, a certified Health Physicist, by placing the meter at varing distances from a 90 mCi Cs-137 source and comparing the meter reading with instrumentation whose calibration is tracable to the National Bureau of Standards.

17. Operating and Emergency Procedures.
a. Emergency procedures for Cobalt-60 source problems are attached.
b. Safety Procedures for Radiation Therapy personnel are attached.

18. Instruction of Personnel.
Instruction of Radiation Therapy personnel are included in the Safety Procedures for Radiation Therapy Personnel.
The House Keeping supervisor incharge of the Radiation Therapy Department will be instructed when first starting work and annually thereafter by the Radiation Safety Officer or his designee. This supervisor will be shown the location of all radioactive material within the Radiation Therapy Department and will be instructed that housekeepers cleaning the Cobalt-60 room are to only vacuum the floor and empty the trash. This supervisor will be responsibile for instructing his workers who will be working in the Coble-60 room. This latter instruction will be done when the housekeeper is first assigned to the Radiation Therapy Department and at least annually thereafter.
The supervisor in charge of the Security Department will be instructed when first starting work and annually thereafter by the Radiation Safety Officer or his designee. This supervisor will be shown the location of all radioactive material within the Radiation Therapy Department and will be instructed that the Cobalt-60

room should be locked at all times except when the department is occupied. He will also be given phone numbers to be used in case of emergencies. This supervisor will be responsibilile for instructing his security officers.

The supervisor incharge of the Maintenance Department will be instructed when first starting work and annually thereafter by the Radiation Safety Officer or his designee. This supervisor will be shown the location of all radioactive material within the Radiation Therapy Department and instructed that no maintenance worker should work around this material without the presence of a radiation therapy technologist. This supervisor will be responsibile for instructing his workers. Emergency phone numbers will also be given to the Maintenance Department

19. Wipe tests.

Procedures for performing wipe tests are described in the attached letter from our consulting physicist.

21. A copy of our ALARA program is attached.

22. Certificate

a. No license fee is required as this is a regional medical center.

Signature and Title of Medical Center Official

Douglas C. Inman
Administrator
Muskogee Regional Medical Center

Date 3/7/86

RECEIVED BY LFMS
Date 3/14/86
Log Mat 1 LE
By
Date Completed 3/18/86

FEE EXEMPT
Code 16

460978

Safety Procedures for Radiation Therapy Personnel

(supercedes all previous procedures)

Policy

Radiation Therapy Department personnel will follow specific procedures to ensure that their work is performed in a safe manner and to ensure that the department's equipment is functioning correctly.

Procedures

1. Equipment checks-Cobalt-60 machine

a. Daily checks.

The radiation monitor in the Cobalt room will be observed at the beginning of each working day to ascertain that the monitor lights come on when the Cobalt source is exposed. Completion of this check will be indicated on the form provided. Should the monitor not work no employees should enter the room without carrying a portable radiation monitor.

b. Monthly and yearly checks will be performed by the consulting radiation physicist.

c. Treatment of patients should be discontinued until any of the following problems have been investigated and/or repaired:

Any emergency "off" button fails to operate.
Door interlocks fail to function properly.
Optical or mechanical distance indicator off by more than 1 cm.
Failure of the source to return to "off" position properly.
Timer malfunctioning
Measured output different from posted output by more than + or - 3%.

After any of the first four problems are repaired, the radiation therapy department supervisor may authorize patient treatments if he is satisfied that the repaired have been satisfactorily completed. After service calls to work on an output change or timer malfunction, the qualified teletherapy expert should be consulted before patient treatments are resumed.

2. Securing Treatment Machines

At the end of each day and whenever the department is going to be unmanned the treatment machine should be turned off and the key removed.

3. Record keeping.

Radiation Therapy Department personnel will keep records of the following:

Daily treatment machine checks
Daily patient treatments
CBC and other lab studies ordered by a physician
Records of inservices

Reports and results of measurements performed by the consulting radiation physicist.

Additional items as specified by the Radiation Therapist or department supervisor.

4. Film Badges.

The Radiation Therapist and all Radiation Therapy technologists will be issued and will be required to wear personnel radiation monitors. The monitors should be worn on the persons collar or at the waist and should be stored in a safe, low radiation, location in the evenings and on weekends.

Film badge readings will be posted in the Radiology Department where employees may examine them.

5. Notification of Authorities following various emergencies.

Notify the following in case of the emergency listed below.

Malfunction in Cobalt Machine--Notify department supervisor, Radiation therapist, Service organization (AECL, Gene Seres---212-233-0939)

Accidental over exposure(exceeds planned dose by 10%)of patient---Notify the radiation therapist and the NRC and others as specified in Section 35.41 and 35.42 of the NRC regulations.

Possible high exposure of employee--notify department supervisor and Radiation Safety Officer. Also mail the film badge to the film badge supplier for special handling. Call the supplier to advise them that the badge is being sent in for special handling. If the reading is above certain levels, the NRC may need to be notified as specified in section 20.403 and 20.405 of the NRC regulations.

6. Employee training in these safety procedures.

The Radiation Therapy Department supervisor and/or the Radiation Safety Officer will review these procedures with each technologist before beginning work and yearly there after. Procedures for emergency source problems will be reviewed with each technologist before they start work and then twice a year by the department supervisor. Other topics to be discussed at the yearly inservices will be

a. Location of all radioactive material within the department.

b. Each employee's obligation to report unsafe working conditions.

c. The relative risks of radiation exposure-including possible fetal damage.

d. The responsibility of each female technologist to report a pregnancy immediately upon it being diagnosed.

e. Each employee's right to be informed of their

radiation exposure.

f. Rules governing mis-administrations.

EMERGENCY PROCEDURES FOR RADIATION THERAPY PERSONNEL

A.E.C.L. THERATRON 780 COBALT-60 MACHINE

(Supercedes all previous procedures.)

Radiation emergency procedures:

In the event that (1) "beam on" light on console, (2) overhead door red "beam on" light, or (3) visual wall monitor in treatment room west wall remain on after time has elapsed on console timer:

1. Press "EMERGENCY STOP" button at right of console.

2. A. Ambulatory patient removal:

   Being careful to avoid the primary beam of radiation, attempt to remove the ambulatory patient from the table and escort out of treatment room.

   B. Non-ambulatory patient removal:

      1.) If you feel you can, move the patient to a stretcher by yourself without being in the primary beam. Do so without attempting to manually shut off by closing the source drawer. Remove patient.

      2.) If patient cannot be moved without exposure to "beam side" of table, attempt to close the source drawer by:

         a. Placing emergency T-bar (located on the entry way overhead mirror) over the beam indicating rod.

         b. Apply forward pressure on the source drawer until the red portion of the T-bar is completely inside the head. (If possible, push until entire amber button of T-bar is inside front cover. Source is considered safe. If not, amber portion is visible outside front cover.)

         *If machine is upside down, unlock table from floor and pivot out of way so that the head is accessible.

3. Lock door.

4. Notify: Dr. Lawrence Cibula, Radiation Therapist
   Dr. George Ladd, Radiation Safety Officer

5. Notify: Gene Seres, Service-A.E.C.L. (214) 233-0939

Jerry Holland, Chief Technologist
Radiation Therapy

460978

4191 S. Zunis Ave.
Tulsa, Okla. 74105
February 16, 1986

Al Dillard
Director of Radiology Services
Muskogee Regional Medical Center
300 Rockefellar Drive
Muskogee, Oklahoma 74401

Dear Mr. Dillard:

T is letter is to advise you of the various saftey checks that I perform on your Cobalt-60 unit as part of the Radiological Physics services rendered to your institution.

Wipe Tests: Wipe tests of the Theratron 780 head and collimators are performed at six month intervals. Wipes are counted in a Picker Spectroscaler III with well counter located at St. John Medical Center in Tulsa. A reference CO-Co-60 sounce is counted also. The activity of the wipe in microcuries is determined and the results are recorded in the log book which I keep in your therapy department.

Monthly checks on the Theratron 780 checks consist of:

Door interlock checks.
Performance checks of the area radiation monitor on both AC and DC power.
Emergency Off switch checks.
Radiation field-light field coincidence checks.
Optical Distance indicator accuracy.
Mechanical Distance indicator accuracy.
Recharge area radiation monitor batteries.
Beam-status indicating light functioning.
Output for a standard field size.
Timer error determination
Timer linearliy determination
Back pointer alignment

The primary system for output measurements is a Capintec PR06 C ion chamber and a Keithley 602 Electrometer. This system is calibrated every two years at a calibration laboratory certified by the AAPM.

The secondary system for output measurements is a Capintec PR06 G ion chamber and a Keithley 616 Electrometer. This system is calibrated against the primary system yearly.

In addition to the monthly checks, the following yearly checks are performed on the anniversary of the most recent source change:

Relative field size dependence.
Tray and wedge factor determination.
Light field vs. radiation field coincidence for 4

gantry angles.
Field flatness and symmetry for large fields

All data is recorded in the log book which is usually kept in you Radiation Therapy Department. After the yearly calibration or after the installation of a new source, I do take the log book out of the deartment for a week while I work through the calculations.

I was certified in Radiological Physics by the American Board of Radiology in December, 1978.

Sincerely yours,

Keith M. Jones, Ph.D.

Keith M. Jones, Ph.D.
Radiation Physicist

460978

PROGRAM FOR MAINTAINING OCCUPATIONAL RADIATION EXPOSURES ALARA
Muskogee General Hospital
March 11, 1981

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 admininstrative 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)[1] 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 protection staff or outside consultants.

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 exposures 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 instances where Investigational Levels in Table 1 below are exceeded. The principal purpose of this review is to assess trends in occupational exposures as an index of the ALARA program and to decide if action is warranted when Investigational Levels are exceeded. (See Section 6.)

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 commitment to maintain exposures ALARA to all persons under his/her supervision.

2. The authorized user will ensure that persons under his 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 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.

TABLE 1

INVESTIGATIONAL LEVELS
(mRems per calendar quarter)

	Level I	Level II
1. Whole body, head and trunk: active blood-forming organs; lens of eyes; or gonads	125	375
2. Hands and forearms; feet and ankles	1,875	5,625

Results of personnel monitoring will be recorded on Form NRC-5 or on an equivalent form once each calendar quarter as required by 10CFR 20.401. The Radiation Safety Officer will review personnel exposures not less than once in any calendar quarter. The following actions will be taken at the Investigational Levels as stated in Table 1.

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. Exposures 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 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 I. 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.

E. The RSC will review the justification for, and will approve, all revisions of Investigational Level II. In such cases, when the exposure equals or exceeds the newly established

Investigational Level II, those actions listed in Paragraph VI. C above will be followed.

VII. Signature of Certifying Official

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

Robert Z. Hann
Signature

Robert Z. Hann
Name (Print or type)

Associate Administrator
Title

Muskogee General Hospital
300 Rockefeller Drive
Muskogee, Oklahoma 74401

RADIATION SAFETY COMMITTEE STATEMENT
January 24, 1986

A. Members of the Radiation Safety Committee are:

1. George Ladd, M.D., Radiologist, R.S.O. Chairman
(Any of the assistant R.S.O.'s will sit on this committee as the acting chairman in the event the chairman is absent or is not available.)

2. Lawrence Cibula, M.D., Radiation Oncologist

3. William Chamberlain, M.D., Pathologist

4. Thomas A. Talley, Assistant Administrator

5. Alvin J. Dillard, Director of Radiology Services

6. Michael Morris, C.H.P., Hospital Physicist, License No. 35-19631-01

7. Paul Minneman, Head Nurse, Acute Care Nursing

8. John Carlyon, Senior Nuclear Medicine Technologist

9. Richard Farris, Section Head, Laboratory

10. J. M. Fite, M.D. OB-GYN

(Any individual member changes on the Radiation Safety Committee will comply with paragraph 35.11 (b) of 10 C.F.R., part 35 unless they are not interested in serving on this committee at that time.)

B. The committee will meet quarterly to ensure that all individuals that work with or in the vicinity of radioactive material have sufficient training and experience to enable them to perform their duty safely and in accordance with N.R.C. regulations and the conditions of the license, and ensuring that all use of radioactive material is conducted in a safe manner and in accordance with N.R.C. regulations and the conditions of the license.

The committee shall be familiar with all pertinent N.R.C. regulations, the terms of the license, and information submitted in support of the request of the license and its amendments. We would also review the training and experience of all individuals who use radioactive material (including physicians, technologists, and physicists) and determine that their qualifications are sufficient to enable them to perform their duty safely and in accordance with N.R.C. regulations and the conditions of the license.

C. All radiation workers and all other individuals whose duties may require them to work in the vicinity of radioactive material, such as nursing, security, maintenance, and housekeeping personnel, are properly instructed at least annually.

George H. Ladd

G.H. Ladd, M.D., Chairman

PROGRAM FOR MAINTAINING OCCUPATIONAL RADIATION EXPOSURES ALARA
MUSKOGEE REGIONAL MEDICAL CENTER
November 25, 1987

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 admininstrative 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)[1] 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 protection staff or outside consultants.

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,

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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. Exposures 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 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 I. 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.

E. The RSC will review the justification for, and will approve, all revisions of Investigational Level II. In such cases, when the exposure equals or exceeds the newly established

Investigational Level II, those actions listed in Paragraph VI. C above will be followed.

VII. Signature of Certifying Official

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

Signature

Thomas A. Talley
Name (Print or type)

Interim Administrator
Title

Muskogee Regional Medical Center
300 Rockefeller Drive
Muskogee, Oklahoma 74401

NRC REGION IV

LICENSEE FOLLOWUP & CLOSEOUT PROFILE SHFET

SUBJECT: Teletherapy Renewal - Resubmittal Request

NRC Lic. No. 35 -13157 - 02

Licensee Contact Alvin J. Dillard, Dir. of Radiology

Organization Muskogee Regional Medical Center

Address 300 Rockefeller Drive

Muskogee [redacted], OK 74401

Telephone No. 918 - 682 - 5501

(X) [redacted] Initials [redacted] Date 11/09/87

{} Referred To:

Initials _____ Date _____

{} Supervisor Review

Initials _____ Date _____

ACTION: {} Overexposure {} Misadministration {} Leaking Source

{} Lost Source {} Stolen Source {} Release of R.M.

(X) Other: Telephone Deficiency

Letter dated Nov. 6, 1987, not what I had in mind.

Addresses name change issue. Does not address renewal request.

Please respond to # 2 of deficiency letter dated Oct. 29, 1987.

Will give to Keith Jones ASAP to address MRMC's licensing needs.

COMMENTS/REMARKS/EVALUATION:

Sny/MS-15 Request

ENFORCEMENT ACTION:

JEW/ 6-82

Safety Procedures for Radiation Therapy Personnel

I. Use of the teletherapy unit.

A. Operation of the teletherapy unit is restricted to the authorized users, the radiation therapy technologists and the teletherapy physicist.

B. Before the unit is operated by any individual, he or she will review the manufacturer's Operators Manual which is available in the Radiation Therapy Department. The Radiation Therapy Department supervisor will be responsible for ensuring that all operators have sufficient knowledge to safely operate the teletherapy unit.

C. To ensure that only the patient is in the treatment room when the source is exposed

1. The door to the treatment room is to be closed only when the patient's treatment is ready to be started.
2. Whenever more than one person is involved in treating patients, one individual will have primary responsibility for the treatment and this person will be the last person to leave the treatment room before the treatment is started. This individual will be designated by the Radiation Therapy Department supervisor.

D. Whenever the department is not occupied, the teletherapy unit will be turned off and the key removed. After normal working hours the teletherapy room door will be locked as will the doors to the department.

E. The radiation monitor in the teletherapy room will be checked at the beginning of each work day to ascertain that the monitor lights come on when the cobalt source is exposed The therapy department supervisor will be responsible for designating the individual responsible for performing this check. Completion of this check will be indicated on the form provided and will include the date, a notation that the monitor lights came on when the source is exposed and the initials of the individual performing the check. Should this monitor not work, no individual should enter the therapy room without carrying a portable radiation monitor. Should this be necessary, the portable monitor(ie. survey meter) will be checked for proper operation with a check source at the beginning of each workday and an appropriate record kept(date, reading for a definite geometry, source identity, expected reading, initials).

F. Monthly and yearly checks will be performed by the teletherapy physicist.

G. All authorized users and technologists will be issued and required to wear film badges when working in the teletherapy room. Badges will be worn on the collar or belt.

3. Establish a program to ensure that all radiation workers and all other individuals whose duties may require them to work in the vicinity of NRC-licensed radioactive material (e.g., nursing, security, and housekeeping personnel) are properly instructed as required by § 19.12 of 10 CFR Part 19.4. Review and approve all requests for the use of NRC-licensed radioactive material within the institution.

4. Review the entire radiation safety program at least annually to determine that all activities are being conducted safely and in accordance with NRC regulations and the conditions of the licenses. (The review will include an examination of all records, reports from the radiation safety officer (RSO), results of NRC inspections, written safety procedures, and management control system.)

5. Recommend remedial action to correct any deficiencies identified in the radiation safety program.

6. Maintain, until NRC terminates our licenses, written records of all Radiation Safety Committee meetings, actions, recommendations, and decisions.

7. Ensure that the NRC radioactive material license is amended, when necessary, before any changes are made in facilities, equipment, policies, procedures, and personnel (i.e., authorized user and RSO).

Meeting Frequency:

The Radiation Safety Committee will meet as often as necessary to conduct its business but not less than once each calendar quarter. A quorum consists of at least 50 percent of the members, but must include the radiation safety officer and the administrator or their designees.

Muskogee Regional Medical Center **POLICY & PROCEDURE**

Subject: RADIATION SAFETY COMMITTEE	Number:
	Effective
	Supersedes:
Approved by: George H. Todd M.D.	Distribution:
	Revision No.
	Revision Date: December 1, 1987
	Review Date:

POLICY:

Muskogee Regional Medical Center will have a Radiation Safety Committee whose composition and duties are as listed below.

Composition:

Radiation Safety Officer -- radiologist specializing in Nuclear Medicine -- chairman or assistant RSO

Administrator or designee

Radiation Physicist

Radiation Therapist

Radiology Department Representative

Nuclear Medicine Department Representative

Nursing Representative

Responsibilities:

The Radiation Safety Committee is responsible for:

1. Overseeing the use of NRC-licensed radioactive materials throughout the institution.

2. Reviewing the institution's radiation safety program to ensure that NRC-licensed materials are used safely and in accordance with NRC regulations, the conditions of all NRC licenses, and the ALARA philosophy (expressed in paragraph 20.1(c) of 10 CFR Part 20).

Duties:

The Radiation Safety Committee will:

1. Be familiar with all pertinent NRC regulations, the terms of the licenses, and information submitted in support of the request for the licenses and amendments.

2. Review the training and experience of all individuals who use NRC-licensed radioactive material (including physicians, technologists, and physicists) and determine that their qualifications are sufficient to enable them to perform their duties safely and in accordance with NRC regulations and the conditions of the licenses.