

ST. ANTHONY'S MEDICAL CENTER

August 24, 1981



Robert Hyland
Chairman of the Board

Joseph B. Weber
Acting Chief
Executive Officer

United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellen, IL 60137

RE: LICENSE AMENDMENT APPLICATION
DATED 7/23/81
DOCKET NO. 030-10108
CONTROL NO. 05241
DATE RECEIVED - 8/13/81

Dear Sir:

Additional information to support our application for amendment
to our license number 24-01041-03 and license number 24-01041-04
is submitted:

1. A copy of our revised ALARA program;
2. A diagram of the layout of facilities when we move
our diagnostic nuclear medicine suite across the
hall to the new location, the blue prints of which
were furnished with our xenon application.

I affirm the above statements are true.

Sincerely,

ST. ANTHONY'S MEDICAL CENTER

Joseph B. Weber
Joseph B. Weber
Acting Chief Executive Officer

Enc. **8506070421 850524**
REG3 LIC30
24-01041-04 PDR

State of Missouri)
County of St. Louis) ss.:

On this 24th day of August 1981, before me personally appeared
Joseph B. Weber known to me to be the individual who executed
the foregoing instrument.

19010 Kennerly Road • St. Louis, Missouri 63128 • (314) 842-5600

SUSAN B. MUELLER
NOTARY PUBLIC - STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXPIRES FEB. 15, 1983

Susan B. Mueller
Notary Public

August 24, 1981

PROGRAM FOR MAINTAINING OCCUPATIONAL
RADIATION EXPOSURES AT MEDICAL INSTITUTIONS ALARA

ST. ANTHONY'S MEDICAL CENTER

I. Management Commitment

- a. We, the management of St. Anthony's Medical Center are committed to the program described in this paper for 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 and will develop the necessary written policy, procedures and instructions to foster the ALARA concept within our institution. The organization will include 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 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 improvements have been sought, 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 assure 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 dose 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 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 I below are exceeded. The principle 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 paragraph 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 RSO, authorized users, and workers as well as those of management.

III. Radiation Safety Officer (RSO)

a. Annual and Quarterly Review.

1. Annual review of Radiation Safety Program. The RSO will perform an annual review of Radiation Safety program for adherence to ALARA concepts. Reviews of specific procedures may be conducted on a more frequent basis.
2. Quarterly review of Occupational exposures. 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 provisions of paragraph VI of this program.
3. Quarterly review of records of Radiation Level Surveys. 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 an ALARA Program.

1. The RSO will schedule briefings and educational sessions to inform workers of ALARA program efforts.
2. The RSO will assure 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 the 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 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 receiving and evaluating the suggestions of individual workers for improving health physics practices and 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 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 the Authorized User to Those He Supervises

1. The authorized user will explain the ALARA concept and his commitment to maintain exposures ALARA to all of those he supervises.
2. The authorized user will ensure that those 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 his 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 review or investigation by the Radiation Safety Committee and/or the Radiation Safety Officer. The Investigational levels that we have adopted are listed in Table 1. 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	1875	5625
3. Skin of whole body	750	2250

The Radiation Safety Officer will review and record on Form NRC-5, Current Occupational External Radiation Exposures, or an equivalent form (e.g. dosimeter processor's report), results of personnel monitoring, not less than once in any calendar quarter, as is required by 10 CFR 20, 20.401. 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. He will report the results of his 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 I

The RSO will investigate in a timely manner the cause (s) of all personnel exposures equaling or exceeding Investigational Level II and, if warranted, 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 Committee 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 NRC inspectors for review at the time of the next inspection.

d. Re-establishment of an individual occupational worker's Investigational II level Above that Listed in Table 1.

In cases where a worker's or a group of worker's exposure 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.

The Radiation Safety Committee 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 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

Joseph E. Weber

Name

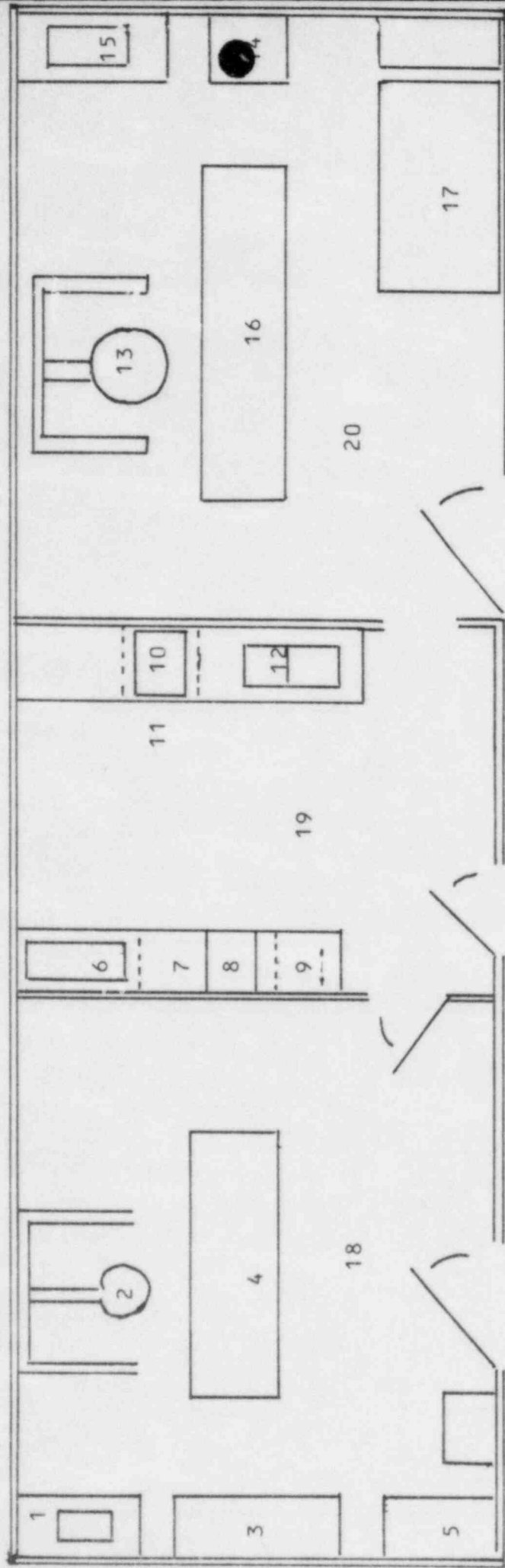
Joseph E. Weber

Title

Acting Chief Executive Officer

Institution Name and Address: St. Anthony's Medical Center

10010 Kennerly Road, St. Louis, Missouri 63128



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MR/HR CPM

1. Sink
2. Detector
3. Console
4. Patient Cart
5. File Cabinet
6. Dosecalibrator Area
7. Radioactive Waste
8. Dose Prep Area
9. Refrigerator
10. Radiopharm Prep Area
11. Generator
12. Hot Sink
13. Detector
14. Console
15. Sink

16. Patient Chart
17. Desk
18. Floor
19. Floor
20. Floor
21. Hallway
22. Restroom

Rad. Waste
(not shown)

Date: _____

Tech: _____

030-10108

July 10, 1981

Medical Licensing
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RE: License #24-01041-03 - 20-347
License #24-01041-04

Gentlemen:

Please amend our byproduct licenses to add 3 new users,
1. Jose G. Vijungco M.D., 2. Jad M. Gennaoui M.D.,
3. Edward W. Szoko M.D..

These 3 physicians are now associated with John L. Bircher M.D.
and John W. Fries M.D. and the other 4 users already listed on
the institutional licenses, and are all certified by the American
Board of Radiology. In addition, they have adequate training and
experience in basic radioisotope handling techniques as well as
experience with the types and quantities of byproduct material used
at this institution as evidenced by the accompanying forms NRC-313M-
supplement A & B appended.

I affirm the above statements are true.

~~8506070409~~ *Joseph B. Weber*
Joseph B. Weber,
Acting Chief Executive Officer

*Dupe of
Previous*

JLB/sy

State of Missouri)
County of St. Louis) ss.:

encl.

On this 4th day of August 1981, before me personally appeared
Joseph B. Weber known to me to be the individual who executed the
foregoing instrument.

SUSAN B. MUELLER
NOTARY PUBLIC - STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXPIRES FEB. 15, 1983

CONTROL NO. 05241

Susan B. Mueller
Notary Public