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

FEB 28 1995

Reed College
ATTN: Steven S. Koblik, Ph.D., President
3203 S.E. Woodstock Boulevard
Portland, Oregon 97202-8199

SUBJECT: NRC INSPECTION REPORT 50-288/94-01

Thank you for your letter of February 16, 1995, in response to our letter and Notice of Violation dated January 25, 1995. We have reviewed your reply and find it responsive to the concerns raised in our Notice of Violation. We will review the implementation of your corrective actions during a future inspection to determine that full compliance has been achieved and will be maintained.

Sincerely,

Samuel J. Collins, Director
Division of Radiation Safety
and Safeguards

Docket: 50-288
License: R-112

cc:
Reed College
ATTN: L. H. Mantel, Ph.D.
Dean of the Faculty
3203 S.E. Woodstock Boulevard
Portland, Oregon 97202-8199

Reed College
ATTN: S. G. Frantz, Director
Reed Reactor Facility
3203 S.E. Woodstock Boulevard
Portland, Oregon 97202-8199

030013

IE01

Oregon Department of Energy
ATTN: David Stewart-Smith, Director
Division of Radiation Control
625 Marion Street, N.E.
Salem, Oregon 97310

Dr. William G. Vernetson
Director of Nuclear Facilities
Department of Nuclear Engineering Sciences
University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

Test, Research and Training
Reactor Newsletter
202 Nuclear Sciences Center
University of Florida
Gainesville, FL 32611

Oregon Radiation Control Program Director

DOCUMENT CONTROL

bcc:
L. J. Callan
*B. Murray, FIPB
*J. B. Nicholas, FIPB
M. M. Mendonca, NRR Project Manager (MS 11 B20)(OWFN)
*DRSS/FIPB File (Hodges)
*RIV File
*MIS Coordinator (Original IFS)
Lisa A. Shea, OC/LFDCB (MS 4503)(TWFN)
S. H. Weiss, NRR/ONDB (MS 11 B20)(OWFN)

DOCUMENT NAME: G:\HODGES\DOCUMENT\REED9401.JBN

To receive copy of document, indicate in box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

RIV:FIPB	NRR	C:FIPB	DD:DRSS	D:DRSS
JBNicholas:nh	MMendonca	BMurray	RAScarano	SJCollins
02/ /95	02/ /95	02/ /95	02/ /95	02/ /95

OFFICIAL RECORD COPY

bcc:
L. J. Callan
*B. Murray, FIPB
*J. B. Nicholas, FIPB
M. M. Mendonca, NRR Project Manager (MS 11 B20)(OWFN)
*DRSS/FIPB File (Hodges)
*RIV File
*MIS Coordinator (Original IFS)
Lisa A. Shea, OC/LFDCB (MS 4503)(TWFN)
S. H. Weiss, NRR/ONDB (MS 11 B20)(OWFN)

DOCUMENT NAME: G:\HODGES\DOCUMENT\REED9401.JBN

To receive copy of document, indicate in box: "C" = Copy without enclosures "E" = Copy with enclosures "N" = No copy

RIV:FIPB	NRR	C:FIPB	DD:DRSS	D:DRSS
JBNicholas:nh	MMendonca	BMurray	RAScarano	SJCollins
02/ /95	02/ /95	02/ /95	02/ /95	02/ /95

OFFICIAL RECORD COPY

REED COLLEGE
Portland, Oregon 97202

Reply to a Notice of Violation

February 16, 1995

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Docket: 50-288
License: R-112
Subject: Reply to a Notice of Violation
NRC Inspection Report 50-288/94-01 Dated 1/25/95

Pursuant to the subject NRC inspection of the Reed Reactor Facility, a Notice of Violation was issued to the facility. The Notice of Violation stated that the facility did not conduct or document the required annual training of Reed College Community Safety, Portland Police Bureau, Portland Fire Bureau, and Good Samaritan Hospital emergency room personnel. The Notice of Violation is not contested. The facility's response is as follows:

1) Reason for the violation

There is no acceptable excuse for the violation. The required training was not documented (and sometimes not conducted) due to staffing shortages. The available staff had to allocate its time between all the various necessary tasks, and documentation of training was sometimes neglected. The facility staff conducted training for personnel when the need was evident, but it was not consistently documented.

All Reed College Community Safety personnel received emergency and security training in 1992 (as documented) and replacement Community Safety personnel received individual training as they were hired. Training only the replacement personnel was considered adequate at the time, but it was not documented.

Portland Police Bureau and Portland Fire Bureau personnel were trained on an irregular basis (e.g., when they were at the college for some reason), but it was not documented.

Good Samaritan Hospital emergency room personnel were not trained because their own training program exceeded any additional useful training that the facility could provide. There was no documentation of this decision.

2) Corrective actions that have been taken and the results achieved

During the fall semester of the 1994-95 academic year (prior to the inspection), the training program was re-established and documented. All Reed College Community Safety personnel, and selected Portland Police Bureau and Portland Fire Bureau personnel were trained on the facility's emergency and security procedures. The director met with the Portland Police Bureau's training officer, provided a tour of the facility, and supplied him with the requisite security and emergency information so that the bureau could determine where it fit best into their overall training program. Members of the local fire bureau were given a tour of the facility and provided with the appropriate security and emergency training. All of this training was documented. The director of the Good

95-0894

3203 SE Woodstock Blvd., Portland, OR 97202-8199 Tel: (503) 777-7222 Fax: (503) 777-7274 email: sgf@reed.edu

Samaritan Hospital emergency room was contacted and it was determined that their personnel had adequate radiological training to handle injured personnel from the facility. This conversation was documented.

A draft standard operating procedure (SOP-12, Security) was written which, among other things, specified the required training of off-site personnel for security and emergency response. The draft SOP was presented to the facility's Radiation Safety Committee in October 1994 and they were reviewing it individually prior to full committee discussion.

Subsequent to the NRC inspection in December 1994, the draft SOP-12 was approved (with revisions) by the Radiation Safety Committee and the procedure became effective February 1995. A copy of SOP-12, Security, is included as an enclosure to this letter. Training of Community Safety, Portland Police Bureau, and Portland Fire Bureau is required under section 12.7.5.

Upon the recommendation of the NRC inspector, a facility planning calendar was created to indicate when periodic events should be conducted. This includes training off-site personnel. A copy of the planning calendar is included as an enclosure to this letter.

It was determined by the Radiation Safety Committee that the facility does not need to train hospital emergency room personnel in radiation safety or facility emergency procedures: we must ensure that the hospital's training program is adequate for our purposes. The Radiation Safety Committee also determined that there was no compelling reason to take contaminated injured personnel to Good Samaritan Hospital rather than other hospitals in the Portland area. These changes will require a revision to the facility's Emergency Plan.

3) Corrective steps that will be taken to avoid further violations

The new procedure (SOP-12, Security) and the planning calendar should ensure that the required training is conducted and documented annually.

A revision to the Emergency Plan will be submitted to the NRC. This revision will remove the requirement to train hospital emergency room personnel in radiation safety or facility emergency procedures. The agreement letter with the hospital required by the Emergency Plan will ensure that hospital emergency room personnel are adequately trained. Requiring that their personnel be trained by our facility staff would not only be redundant with their own requirements, it would be a burden on their busy schedule. Reed Reactor Facility will, of course, offer to provide any training they desire.

The Emergency Plan will also be revised to provide a choice of hospitals. There is no longer any compelling reason for using Good Samaritan Hospital. When the Emergency Plan was written the Trojan Nuclear Power Plant was operating and had an agreement with Good Samaritan Hospital. For that reason, Good Samaritan Hospital had special facilities and training for radiological injuries. Now that the Trojan Nuclear Power Plant is permanently shutdown, Good Samaritan Hospital has similar facilities and training for radiological injuries as other hospitals in the area. Also, Good Samaritan Hospital is not a trauma center, so it may not be the optimal destination for an injured person. The Emergency Plan will therefore be revised to include a choice of hospitals, with agreement letters for any hospital the facility plans to use.

4) Date when full compliance will be achieved

The facility is in compliance with the exception that Good Samaritan Hospital emergency room personnel are not trained by facility staff in radiation safety or facility emergency procedures. Emergency room personnel receive adequate training by their own program, and we verify that they have adequate training by the agreement letter and discussion with their administrator. When the proposed revision to the Emergency Plan is approved, the facility will be in full compliance. The facility plans to submit the revision to the Emergency Plan by June 30, 1995.

Stephen G. Frantz
Director, Reed Reactor Facility

Enclosures:
SOP-12, Security
Reed Reactor Facility Planning Calendar

Copy with Enclosures:

U.S. Nuclear Regulatory Commission
Regional Administrator, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

Oregon Department of Energy
ATTN: David Stewart-Smith, Director
Division of Radiation Control
625 Marion Street, N.E.
Salem, OR 97310

Steven S. Koblik, President
Reed College

Linda H. Mantel, Dean of the Faculty
Reed College

Curt Keedy
Chair of Reed College Radiation Safety Committee

Arthur Glasfeld
Chair of Reed College Reactor Operations Committee

Test, Research and Training Reactor Newsletter
202 Nuclear Sciences Center
University of Florida
Gainesville, FL 32611

SOP 12

Security

Effective: February 1995

REED REACTOR FACILITY

Standard Operating Procedure

12.1 Purpose

This procedure implements the requirements of Reed College Physical Security Plan. Because of the nature of this procedure, portions of it are included in appendices which are not generally distributed.

12.2 Schedule

Revisions to Entry list A are made by the director as necessitated by changes in facility staff.

Entries to Entry List B are made as individuals enter and leave the facility.

Keys and Facility Access Codes shall be simultaneously changed at least once every two years (not to exceed 28 months) and at any other time the director suspects that facility security may have been compromised, including but not limited to loss of control of a facility key. This key change should take place between June and September of even numbered years.

Keys are issued, consistent with this procedure and the Security Plan, as requested by individuals requiring access to the facility.

The Physical Security System shall be tested in accordance with the bimonthly checklist. Each zone will be tested at least annually as detailed in Appendix D.

The Portland Police Bureau, the Portland Fire Bureau, and Community Safety will meet with the director annually to review the proper and necessary security and emergency procedures.

The Security Plan shall be reviewed and updated (as necessary) at least once every two years by the director with the help of the Radiation Safety Committee.

The security response procedures shall be tested in cooperation with the Portland Police Bureau annually. Details are given in the Security Plan.

12.3 Personnel Requirements

Only the director may make revisions to Entry List A.

Any member of Entry List A may authorize students and visitors who wish to enter the facility, consistent with these procedures.

Initiation of lock and access code changes shall be the responsibility of the director. The locksmith from the Reed Physical Plant replaces locks. Issuance of access codes by Honeywell shall be by specific written instruction from the director.

Keys are issued by Reed College Physical Plant upon the written direction of the director.

Testing of the Physical Security System is the responsibility of the director who may be accompanied and assisted by selected facility staff and/or Radiation Safety Committee members.

Everyone on Entry List A shares a responsibility to maintain the security of the facility.

12.4 Prerequisites

Not Applicable.

12.5 Precautions

Do not put yourself in physical danger to maintain the security of the facility.

12.6 Order

Not Applicable.

12.7 Procedure

12.7.1 Controlled Access Area

The permanent Controlled Access Area (CAA) is the reactor room and the mechanical room.

A person entering the CAA enters via one of two major categories: They have been placed on Entry List A by the Director, or they enter via Entry List B.

12.7.2 Temporarily Established Controlled Access Area

The temporary and larger CAA may be designated by any licensed operator when all of the following conditions are met:

a) The entryway outside door is locked, and

b) The Psychology Building stairway door is locked, and

c) There is at least one licensed operator in the permanent CAA or control room.

The temporary CAA is designated as such by opening the control room main entrance door and making an entry in the Main Log. A sign is placed on the Psychology Building stairway door should state that the door is to remain locked.

12.7.3 Entry List A

Individuals are placed on Entry List A by the director. Individuals on this list do not need to be accompanied in the Reactor Facility. Any individual on Entry List A may accompany others who have specific business in the facility as described under Entry List B.

The director may name to Entry List A any member of the Reed College staff, Reactor Facility staff, or trainees who, in the opinion of the director, meet the following criteria:

a) They have sufficient training in facility procedures including emergency procedures to be able to recognize and respond appropriately to emergency situations which may arise, and

b) They have a need to work in the CAA.

12.7.4 Entry List B

This list includes all visitors to the CAA who are not on Entry List A. Anyone on Entry List A may escort individuals into the CAA after the visitor has signed onto Entry List B.

The person authorizing access to the CAA will be responsible to assure the following:

a) The individuals entering via Entry List B have a legitimate purpose in the CAA.

b) The person granting authorization must accompany all such individuals into the CAA and maintain visual contact with them at all times.

12.7.5 Training

The Portland Police Bureau, the Portland Fire Bureau, and Community Safety will meet with the Director annually to review the proper and necessary security and emergency procedures. As a minimum, training on the information in Appendix C will be documented.

12.7.6 General Security Guidance

Personnel who are issued keys or passcards must ensure they are not lost or stolen. If they are lost or stolen, notify the director immediately.

Do not leave visitors unattended in the reactor bay or mechanical room.

Avoid working in the facility alone at night.

Set all facility alarms when work at the facility is done for the day.

Avoid opening the entryway door to strangers. Encourage visitors to call from the chemistry loading dock or use the intercom (if installed). Do not give anyone access to the facility until you have identified them.

If there is a break-in at the facility notify Community Safety, the Portland Police, and the facility management in any possible way under the circumstances. Do not put yourself in danger to do this.

12.8 Logging Requirements

All problems and testing of the security system is to be logged only in the Security Logbook which is maintained by the director.

12.9 Special

Not Applicable.

12.10 Acceptance Criteria

Not Applicable.

APPENDICES

Appendix A: Key Request Petition: A-Keys

Appendix B: Key Request Petition: B-Keys

Appendix C: Instructions to Community Safety Personnel

Appendix D: Testing of the Physical Security System (Confidential - Not Distributed)

REED REACTOR FACILITY

KEY REQUEST PETITION: A-Key

I, _____ (print your name), hereby petition the Director of the Reed Reactor Facility for a copy of the Reactor Room "A" key (_____).

I understand that to be issued this key, I must need this key on more than an occasional basis and that if I cease to need the key as described below, I shall surrender it to the Director immediately.

1) Anticipated projects for which access to the Controlled Access Area is necessary will include:

_____

_____

_____

2) Anticipated rate of use (*e.g., weekly*): _____

3) Termination date: _____ (*if before September of the next school year*).

I understand that, if I do not adhere to the requirements of the Reed Reactor Facility Security procedures, I may be asked to surrender my key immediately. I also understand that, notwithstanding the Termination Date above, this "Key Request Petition" becomes void on the September following issue and that I will return the key issued to me or execute a new Petition at that time. If this key is lost or stolen, I will notify the Director immediately.

Requested by: _____ Date: _____

Authorized by Director: _____ Date: _____

REED REACTOR FACILITY

KEY REQUEST PETITION: A-Key

I, _____ (print your name), hereby petition the Director of the Reed Reactor Facility for a copy of the Reactor Room "A" key (_____).

I understand that to be issued this key, I must need this key on more than an occasional basis and that if I cease to need the key as described below, I shall surrender it to the Director immediately.

1) Anticipated projects for which access to the Controlled Access Area is necessary will include:

_____

_____

_____

2) Anticipated rate of use (*e.g., weekly*): _____

3) Termination date: _____ (*if before September of the next school year*).

I understand that, if I do not adhere to the requirements of the Reed Reactor Facility Security procedures, I may be asked to surrender my key immediately. I also understand that, notwithstanding the Termination Date above, this "Key Request Petition" becomes void on the September following issue and that I will return the key issued to me or execute a new Petition at that time. If this key is lost or stolen, I will notify the Director immediately.

Requested by: _____ Date: _____

Authorized by Director: _____ Date: _____

REED REACTOR FACILITY

KEY REQUEST PETITION: B-Key

I, _____ (print your name), hereby petition the Director of the Reed Reactor Facility for a copy of the Radiochemistry Lab, "B" key (_____).

I understand that, to be issued this key, I must need access on more than an occasional basis, and that if I cease to need the key as described below, I shall surrender it to the Director immediately.

1) Anticipated projects for which access to the Radiochemistry Lab is necessary will include:

_____

_____

_____

_____

2) Anticipated rate of use (*e.g., weekly*): _____

3) Termination date: _____ (*if before September of the next school year*).

I understand that I have been briefed on the requirements of the Reed Reactor Facility Security procedures as they apply to the Radiochemistry Lab, and that if I fail to follow them I may be asked to surrender my key immediately. I also understand that, notwithstanding the Termination Date above, this "Key Request Petition" becomes void on the September following issue and that I will return the key issued to me or execute a new Petition at that time. If this key is lost or stolen, I will notify the Director immediately.

Requested by: _____ Date: _____

Authorized by Director: _____ Date: _____

REED REACTOR FACILITY

Instructions for holders of Radiochemistry Laboratory "B-keys"

The Radiochemistry Laboratory is covered in the Reed Reactor Facility Security Plan. As a holder of a key to that lab, it is important that you understand that this plan is approved by the Nuclear Regulatory Commission and must be followed at all times. Following the procedure which follows will ensure that we remain in compliance with that plan.

1) The reactor room must be isolated by two locked doors. Do not block open the stairway door OR the entryway outside door, unless you are certain that the door between the control room and the reactor room is locked. Thus, if you need to block open either door (even for a few minutes), you must determine if anyone is in the reactor:

   a) If the light in the control room is OFF, that means that no one is in the facility and the reactor room door is locked.

   b) If there is someone in the facility, knock on the door, notify them that you need to block the door, and obtain their permission. If they are engaged in certain operations, you may have to wait until they finish to block either door.

2) The entryway outside door is NOT to be left blocked and unattended at any time.

3) If the reactor is running and the pneumatic transfer system (rabbit) is in use, there is the potential for sudden high radiation areas to develop in the radiochemistry lab. In these cases, the doors should remain locked and you should be prepared to respond as instructed by someone operating the system.

4) Upon completing your work, ensure that the stairway door and the entryway doors are closed and locked.

5) If students or others working with you need to use the Radiochemistry Lab, you are responsible for their understanding of and compliance with these procedures.

6) If you notice any unusual situations including alarms or red lights in the reactor room use the Emergency Notification Call list on the control room door to notify the first available person on the list.

INSTRUCTIONS FOR RESPONSE TO REED REACTOR FACILITY ALARMS OR EMERGENCIES

1) Under normal situations, Community Safety, Portland Police, Portland Fire Bureau, and custodial personnel may not enter the reactor room unless accompanied by an authorized individual. The names of authorized individuals appear on Entry List A which is posted on the Reactor Control Room door.

2) If any of the alarms listed on the next page is activated or if evidence is found of illegal entry:

   a) DO NOT ENTER THE FACILITY - there is a risk of radiation exposure or contamination.

   b) Use the Emergency Notification Call List (ENCL) posted on the Control Room door to [illegible] contact a member of the Reactor Staff. Briefly explain the situation as best you can over the phone.

      Note: If you were alerted by Honeywell because of a fire or security alarm involving the reactor, they should have already notified someone from the list who should arrive soon. A second call can ensure that someone is on the way.

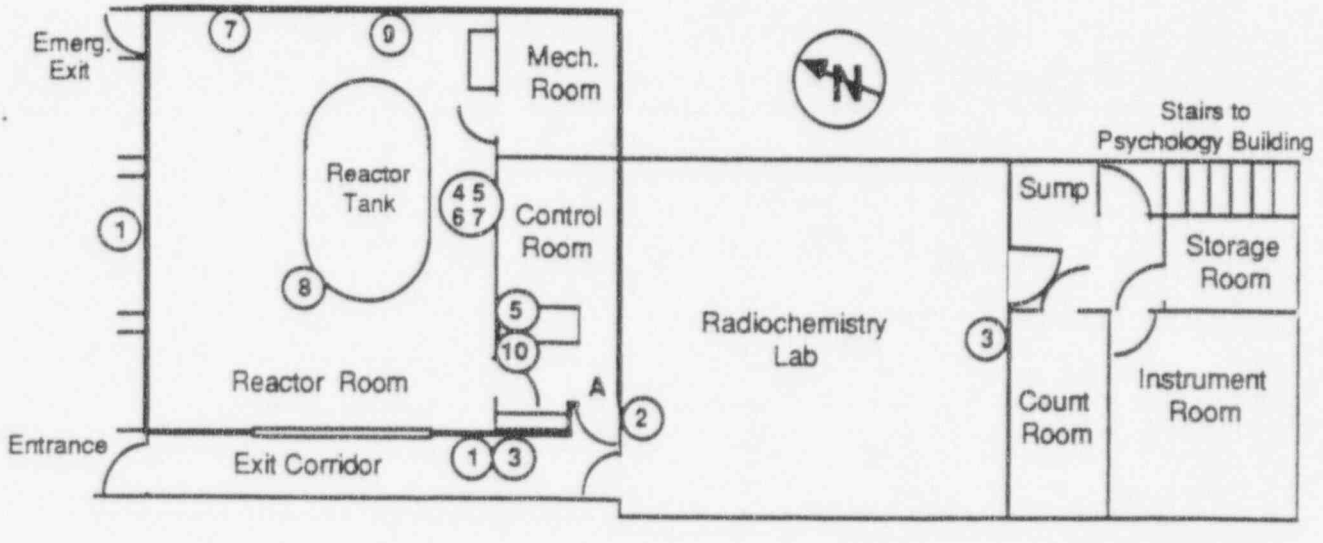
   c) Notify Police or Fire Bureau (call **911**), if assistance is needed. If you think that radioactive materials may be involved, inform the Police or Fire Bureau of that fact so that they can alert their specially trained personnel.

   d) Do not allow unauthorized individuals to enter the facility.

3) Emergency entry to the facility is permitted if BOTH of the following criteria are met:

   a) NO alarms have been activated; and

   b) It is a genuine emergency which cannot wait until authorized personnel arrive (e.g., a fire or injured person).



REED REACTOR FACILITY
EMERGENCY SIGNALS AND ALARMS

	Name of Alarm	Location of Alarm	Meaning of Alarm
1	Water Level Alarm	Red light outside north wall over double doors and in reactor hallway.	Water level more than 4" below or above normal. **DO NOT ENTER FACILITY.**
2	Evacuation Alarm	Siren in reactor room; light in lab.	Manually operated. **DO NOT ENTER FACILITY.**
3	Fire Alarm	Red "FIRE" light in hallway and lab. Sector 1 fire alarm on Honeywell panel at Psychology Building door. Alarms throughout Psychology Building and facility.	Fire in reactor room or labs.
4	Security Alarm	Bell on south wall of reactor room.	Illegal entry into facility.
5	Isolation Cycle	Red light on panel on south wall; small red light on center of the top stack monitor box in control room (visible in mirror through Door A)	Ventilation system not operating normally; may be caused by loss of power, or may indicate radioactive materials in air (especially if accompanied by other alarms).
6	Secondary Water Pressure	High pitched alarm in reactor room.	Secondary water pump has failed or pressure is too low. (NOT AN EMERGENCY)
7	Secondary Water Pump	Green light on south wall, Red light on east wall	Pump is on lit; off if not lit. (NOT AN EMERGENCY)

For the following, the **yellow** light should be on and the **red** light should be off. Emergency condition is indicated by **yellow** light off; **red** light on, or alarm **bell.**

8	Radiation Area Monitor	Pole in northwest corner of reactor pool	High radiation in reactor room. **DO NOT ENTER FACILITY.**
9	Continuous Air Monitor	Cart on floor of the east wall of reactor room	Radioactive air in reactor room. **DO NOT ENTER FACILITY.**
10	Stack Monitors	Panel on north wall of control room (visible in mirror through Door A)	Radioactive air leaving reactor. **DO NOT ENTER FACILITY.**