RADIATION CENTER

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U.S. Nuclear Regulatory Commission
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Washington DC 20555

References: 1. Oregon State University TRIGA Reactor (OSTR), Docket No. 50-243, License No. R-106
2. Emergency Response Plan Revisions

Subject: Application for an Amendment of the OSTR Emergency Response Plan Submitted Under 10 CFR 50.54(q).

Gentlemen:

The purpose of this letter is to apply for an amendment to the OSTR Emergency Response Plan (ERP). We have determined that there are six changes to the ERP which will result in a reduction of effectiveness of the plan per 10 CFR 50.54(q). However, these changes are appropriate as the changes reference old equipment that should not be used or is no longer needed. The proposed amendment to the ERP has been reviewed by the OSTR operations staff and approved by the Reactor Operations Committee. If there are any questions regarding this amendment application, please let me know. I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Stephen E. Binney
Director

Executed on: 2/12/02

cc: Document Control Desk, USNRC
Al Adams, USNRC
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Enclosure

A020

Rec'd 03/04/02

ENCLOSURE

Oregon State University TRIGA Reactor (OSTR)
License No. R-106, Docket No. 50-243

Background Information:

Under the provisions of 10 CFR 50.54(q), it was determined that each of the following changes to the Emergency Response Plan constituted a reduction in effectiveness. However, these changes would not, in all practical terms, reduce our ability to handle an emergency. They will remove references to equipment and procedures that are owned by outside agencies and will remove outdated equipment.

Proposed Amendment 1:

Oregon State University (OSU) requests that following changes be made:

On page 8-6, section 8.3.5.a, replace "...including contaminated patients, which includes the following elements:" with "...including contaminated patients." Additionally, delete sections I, ii, iii, and iv which follow.

Justification:

This section describes the techniques and procedures used by Good Samaritan Hospital to handle radioactively contaminated patients. This leaves OSU in the unenviable situation of having procedures over which it has no authority or control, in our license documentation (i.e., OSTR Emergency Response Plan). The section immediately following this, section 8.3.5.b, and elsewhere in the plan establish training requirements and letters of agreement to handle emergencies. With this in mind, we would like to remove references to Good Samaritan Hospital internal policies or procedures.

Proposed Amendment 2:

OSU requests that following changes be made:

On page 10-3, section 10.4.1.g, delete this section, which states, "The chambers of the gas flow proportional counters are normally cleaned on a semiannual basis."

Justification:

Cleaning the chambers of the gas flow counters on a semi-annual basis is excessive. They

should only be cleaned when contamination is suspected or some other specific instance where it is justified. The risk of damage to the wire anode is too great to justify routine cleaning. Cleaning of the chamber would be initiated by a failure of the quality assurance check performed prior to use, as already required by the OSTR health physics procedures.

Proposed Amendment 3:

OSU requests that following changes be made:

In Appendix B of the annual inspection list on page B-3, delete item 5 (headphones for CDV-700s), and 6 (CDV-700 carrying straps) and change item 2, "Four ion chambers, R h^{-1}" with "Two ion chambers, R h^{-1}".

Justification:

These are old CDV-715, CDV-715 carrier straps, and the CDV-700 headphones. Due to abnormal readings in the presence of RF fields created by common communications equipment used by emergency response personnel, all CDV-715s are being removed from service. We have recently purchased two new ion chambers that will be introduced into the instrument pool to replace the CDV-715s. The CDV-700 were replaced with different model GM instruments. Therefore the headphones are no longer needed.

Proposed Amendment 4:

OSU requests that following changes be made:

In Appendix B under the inventory of equipment at Good Samaritan Hospital on page B-5, remove the reference to the laboratory counting system and 2 portable GM meters listed under "Elsewhere in hospital".

Justification:

We have no control over the calibration and or possession of equipment owned by the hospital. As with the procedures identified above, the OSTR ERP should not be referencing or specifically implying access to instrumentation that is not under our control.

Proposed Amendment 5:

OSU requests that following changes be made:

In Appendix B under the Room D-100 Emergency Cabinet on page B-7, delete item 4 (CDV-715

ion chamber).

Justification:

This is a CDV-715 ion chamber. We are in the process of removing all of them from service. These instruments have been shown to produce abnormal readings in the presents of RF fields created by common communications equipment used by emergency response personnel.

Proposed Amendment 6:

OSU requests that following changes be made:

Remove all references to the building emergency evacuation system as OSU would like to replace it with an augmented Public Address system. Specifically:

On page 8-1, section 8.1.a, replace the last sentence, "In addition, the general evacuation alarms for the entire Radiation Center Complex may be initiated and turned off in this room, and the dose rate measured by the ARM outside of the control room can be read there." and replace it with, "In addition, the dose rate measured by the ARM outside of the control room can be read there."

On page 8-1, section 8.1.d, replace the last sentence, "In addition , the control room has the same intercom system as Room A100, as well as the same capability to turn the evacuation alarms on and off." and replace it with "In addition, the control room has the same intercom system as Room A100."

On page 8-1, section 8.1.d, change the second sentence from "..., including two independent telephones and a microphone for the Radiation Center Complex public address system." To "..., including two independent telephones, a microphone for the Radiation Center Complex public address system and the public address building evacuation message system."

On page 10-3, delete this section 10.4.2.e that reads, "The emergency evacuation horns are functionally tested each quarter."

Justification:

There are currently three means for evacuating the Radiation Center (RC). The first is a series of car horns driven by a set of 12-volt batteries. Second is the building public address (PA) system. The third is the building fire alarm system. OSU would like to eliminate the car horn system and depend upon the PA system as the primary means of evacuation notification and continue to rely on the fire alarm system as a secondary means of evacuation notification. The advantage of this

change is that our primary means of evacuation would be on a proven system that is tested several times each day. This change will also reduce the amount of equipment that has to be maintained.

To enhance the evacuation function of the PA system, a message module circuit will be added into the left hand side cabinet of the reactor console. This circuit is composed primarily of a voice record/playback integrated circuit (IC). A second module, the record & test module will remain separate from the console.

A message consisting of a tone and instructions will be digitally recorded and previewed on the record & test module. Once this is done, the IC will be moved to the message module. In the message module the IC will be hardwired to play the message continuously as long as the circuit is energized.

Under an earlier modification to the PA system, a microphone selector switch was added to the left hand side cabinet. This switch allows the operator to select between broadcasting a message on the PA to just the reactor bay or the entire RC. A third position will be added that will automatically activate the message module and cause the evacuation message to be broadcasted throughout the RC, including the reactor building.

The present PA system will be augmented by adding speakers to areas not presently covered. These areas include the reactor building stairwell, Rm. F100 (APEX Facility), Rm. D400 (reactor bay ventilation exhaust), and Rm. D106 (reactor bay ventilation supply). Additionally, the third selector on the switch will be wired to a separate connection on the PA amplifier. The amplification setting for this connection (i.e., evacuation message) will be set at a higher level than the connection used for normal PA use. The appropriate amplification setting will be determined upon installation. The PA system will continue to be on Emergency Power System A and the fire alarm system will continue to be on Emergency Power System B.

The present PA system is tested on a daily basis through routine use. It is easily adaptable and requires almost no maintenance. The current antiquated evacuation horn system consists of a set of car horns connected to 12V batteries. Replacement of the 12V batteries is not uncommon as they are not exercised regularly and the amperage drawn by the horns is considerable. This has led to a higher frequency of malfunctions (i.e., bad batteries, horn failures) than is desirable. Elimination of the horn system and replacement by the augmented PA system will greatly improve reliability. If the PA system were to fail, the fire alarm system will be available as a backup. Both the PA and fire alarms are on the Emergency Power System, but they are otherwise independent.