

March 11, 2002

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

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

Subject: Unauthorized Irradiation

Gentlemen:

The OSTR staff would like to respectfully inform the Commission about a recent violation of our procedures. Technical Specification 6.5.a states that operating procedures will be established for performing experiments. OSTR Operating Procedure (OSTROP) 18, "Procedures for the Approval and Use of Reactor Experiments," requires that both the Senior Health Physicist and the Reactor Supervisor approve the irradiation prior to the performance of the experiment. In spite of the above, an experimenter operating the pneumatic transfer (Rabbit) facility irradiated three samples that were not authorized.

We do not consider this to be a reportable occurrence per Technical Specification 6.7.c.4 because this situation did not cause nor could it have caused the existence or development of an unsafe condition with regard to reactor operations. However, this was a departure from the intent of the procedure. This letter represents the desire on the part of the OSTR to maintain good and open communication with the Nuclear Regulatory Commission. An initial verbal notification of this situation was made to Mr. Alexander Adams Jr., the OSTR's Project Manager at the NRC, on March 7, 2002.

Description of the Incident

Once an experiment has been approved by the Reactor Operations Committee, subsequent uses of the experiment are controlled via Irradiation Request (IR) forms. The OSTR uses IR forms to fulfill a variety of tasks including review and approval of irradiations, reactor use record keeping, material transfer, billing uses and other such accounting requirements. Use of the Rabbit system requires the signature of both the Senior Health Physicist and the Reactor Supervisor on the IR. The Senior Health Physicist checks for the types and quantities of isotopes expected to be produced as well as for other health physics and radioactive material license related aspects of the irradiation. The IR is then passed on to the Reactor Supervisor who checks the form to ensure that the irradiation can be performed under one of the currently approved reactor experiments. He also ensures that the encapsulation method meets the experiment requirements and that other reactor license related aspects of the requested irradiation are in order.



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Late in the afternoon of March 6, 2002, an experimenter was performing a routine series of irradiations using the Rabbit facility. The properly approved IR identified 17 samples for irradiation. During the course of irradiating the samples, the experimenter found that the results were not what were expected. The experimenter decided to add three more samples in an attempt to explain the results. These three samples were "blanks" containing nothing more than air. After the irradiation was complete, the researcher entered the three additional samples on the second page of the IR and returned the IR to the Reactor Supervisor in the control room.

The Reactor Supervisor was later reviewing the IRs performed during that day and discovered what he believed to be additional entries on the IR. He informed the Reactor Administrator who then informed the Director. However, the situation could not be confirmed as it was the end of the day, and the Senior Health Physicist and the experimenter were unavailable.

On the morning of March 7, 2002, the Reactor Administrator consulted the Senior Health Physicist who, like the Reactor Supervisor, remembered approving only 17 samples on that IR. The Reactor Administrator then met with the researcher who confirmed that he had in fact irradiated the three additional samples. The Reactor Administrator then immediately suspended the researcher's authorization to use the reactor experimental facilities until further notice. The Reactor Administrator also briefed the Chairman of the Reactor Operations Committee later that morning. On the afternoon of March 7, the Reactor Administrator again met with the researcher and reiterated the importance of the situation.

Corrective Actions

The experimenter has been administratively suspended from performing Rabbit irradiations until he has completed Rabbit retraining supervised by the Reactor Supervisor and the Senior Health Physicist. Prior to this, the experimenter will be asked to review Experiment B-3, *Irradiation of Materials in the Standard OSTR Irradiation Facilities*, OSTROP 10, *Operating Procedures for Reactor Experimental Facilities*, and OSTROP 18, *Procedures for the Approval and Use of Reactor Experiments*.

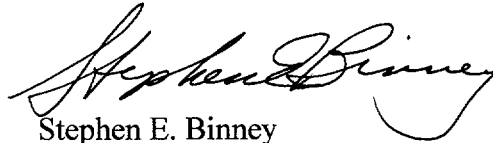
Corrective Actions to Prevent Reoccurrence

During the interview with the experimenter on the morning of March 6, it was apparent that the importance of a correctly completed IR was not completely understood. The current procedures are directed more toward the OSTR staff and may not be very effective at informing an experimenter of "how" and "why" to properly complete an IR. With this in mind, information obtained from OSTROP 18, *Procedures for the Approval and Use of Reactor Experiments*, and OSTROP 6, *Administrative Procedures*, will be incorporated into a new IR document designed to explain how to correctly enter information onto the forms and the importance of the forms themselves. This document will then be disseminated to all users of the OSTR.

If you have any questions or comments, please do not hesitate to call me.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

A handwritten signature in cursive script, reading "Stephen E. Binney".

Stephen E. Binney
Director

Executed on: March 11, 2002

cc: Al Adams, USNRC
Craig Bassett, USNRC
Kathy Brock, OSU
Jack Higginbotham, OSU
Rich Holdren, OSU
Steve Reese, OSU
Gary Wachs, OSU