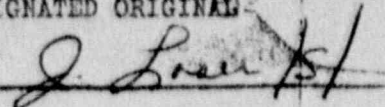
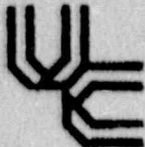


Certified By

University of Cincinnati
Medical Center

Office of Administrative Services

Health Professions Building
Eden and Bethesda Avenues
Cincinnati, Ohio 45267-0553

October 2, 1989

Refer to: RSO-0024

Donald Sreniawski
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Rd.
Glen Ellyn, IL 60137SUBJECT: Monthly Update of Accomplishments with respect to
Confirmatory Action Letter date 8/30/89.REFERENCES: 1. NRC License No. 34-06903-⁻⁰⁵~~13~~; Docket No. 030-⁻⁰²⁷⁶⁷~~02526~~
2. NRC Confirmatory Action Letter (CAL) dated 8/30/891. Crosely Tower Decontamination Project (CDP)

On August 23, 1989, gross (widespread) technitium-99 (Tc-99) contamination was discovered in Crosley Tower laboratories, Rooms 300 and 309, by an NES team performing audits/surveys of UC research labs.

At that time, five (5) lab techs/research assistants were monitored for contamination resulting in the confiscation of shoes and some articles of clothing (NOTE: lab personnel wore gloves; no external body contamination was identified).

A. Personnel Exposures (External/Internal)

On August 24, 1989, film badges of the above-referenced lab personnel, plus that of one individual who routinely used a balance Room 300 but did not work directly with radioactive material, were sent to Landauer Co. for "emergency processing". On August 25, 1989, a representative of Landauer telephoned to report that all readings were "M" (i.e., beta, gamma and x-ray exposures were minimal; less than 10 millirem).

A bioassay program was initiated for lab personnel on August 24, 1989 (both urine and fecal analyses). In addition, urinalyses are being performed for 3 Housekeeping and 10 Maintenance Department representatives. The maintenance men routinely work in the vicinity of the exhaust fans/duct work from the affected labs; the Housekeepers originally stated that they worked in the labs on several occasions when no one else

2.

7 PC/l P.3
for another researcher (currently here)

(authorized) was present. Whole-body counting was also provided for the 3 Housekeepers, who subsequently admitted that they had not been in the labs.

Urine sample collected week of suspected significant contact

The whole body counts did not indicate the presence of other than naturally occurring radioactive material (background). The final results of urinalyses have not yet been submitted to UC by Eberline's Albuquerque Laboratory. Preliminary analyses by the UC Radiation Safety Office (via split sampling) do not indicate identifiable levels of Tc-99 in any urine sample counted. The Eberline results are ~~expected on~~ Wednesday, September 27, 1989.

WAS rec'd on 9/29

41 PC/l for Italian Reagent into your tank

B. Notification of PIs/Training

On August 30, 1989, the U.S. Nuclear Regulatory Commission (NRC) issued a Confirmatory Action Letter (CAL) to UC which, among other things, required that UC provide a written notice to all users of licensed material detailing the recent technetium-99 contamination incident and its apparent cause(s). This notification was required to be made by C.O.B. on September 1, 1989. By memorandum dated and issued on September 1, 1989, Dr. Jerome F. Wiot (Chairman of the Radiation Safety Committee) made the appropriate notification.

On August 30, 1989, NES/UC representatives discussed the contamination incident with 10 members of the Maintenance Dept., and further provided the necessary training required by 10CFR19.12. This training was again provided on September 15, 1989, to 15 additional maintenance men.

C. Crosley Tower Rooms 300 and 309 Decon Status

In accordance with the NRC's August 30, 1989 Confirmatory Action Letter (CAL), operations in Crosley Tower laboratories, Rooms 300 and 309, have been suspended and will remain so pending decontamination and other actions delineated in said CAL.

The following summarizes NES decon activities/accomplishments to date:

1. Active research was suspended; authorized users were allowed to remove/secure their specific laboratory apparatus and equipment (if uncontaminated) under NES supervision.
2. Hazardous materials (non-radioactive) were segregated and either released from the lab (post-survey) or secured in protected storage (if externally contaminated) to facilitate decontamination.
3. Detailed lab surveys were performed which corroborated preliminary findings of gross, widespread contamination on virtually all surveys of both labs. The extent and degree of contamination was considerably greater in Room 300 vs. 309.

3.

- 4. All carts, chairs, plastic bags of previously stored waste and a variety of portable lab equipment and glassware were moved to the west end of each lab to facilitate grid mapping and initial decon efforts.
- 5. The majority of effort, to date, centered on Room 309 in an effort to declare it "decontaminated" (for use as a "clean room" in the decontamination of Room 300, which is ongoing).
- 6. As of this date, all exposed surfaces in Room 309 (with the exception of the fume hood and sink drain) including counter tops, benches, shelves, floors, walls and the ceiling, have ~~been reduced to releasable levels.~~ This was accomplished primarily due to the concerted effort of 5 NES and 3 UC representatives working on both Saturdays and one Sunday, as pre-approved (half of this team is lost to required lab audits/surveys on weekdays).

*220 dpm/100cm²
small*

*fixed counter
is being shielded
or painted over*

- 7. Contaminated wastes (including several lab stools/chairs with elevated levels) were drummed (1 containing incinerator-disposal waste; 4 contain compactable and one non-compactable waste for burial). These drums were removed the week of Sept. 18, 1989.

At present, 6 more drums of waste (for disposal by on-site incineration or off-site burial) are prepared for removal. Cost effectiveness considerations dictate that Crosley Tower lab personnel, under NES supervision, provide the labor to decontaminate the myriad of contaminated glassware, lab equipment and tools, and assorted personal items contained in drawers and cabinets.

- 8. Crosley Rooms 310 and 310A were surveyed and display gross contamination on floor surfaces and equipment (these areas house spent Tc-99m generators and are used by personnel involvd in research in adjacent Rooms 300 and 309). These areas are locked and secured pending decon.
- 9. While not identified in the cursory surveys performed at the time of gross contamination identification in Rooms 300 & 309, more detailed surveys of Rooms 313 & 307 on September 10, 1989 indicated the presence of Tc-99 contamination in several areas, specifically, a workbench vise, a floor drain and one piece of analytical equipment. This contamination is primarily fixed, and appears to have been present for an extended period (the higher direct reading levels tended to be on rusted surfaces; in addition, two lab stools with elevated readings around the edge of the seat cover were found to be concealing considerably higher fixed levels on the older recovered cloth seat covers underneath). These stools and equipment were reduced and placed in non-compactable waste drums referenced in Item 7.
- 10. Decon efforts this week will be devoted to full-scale decon of Room 300.

2. NES Walk-through Audit/Survey Program

The scope of NES' routine walk-through audits/surveys program, originally planned to encompass approximately 10% of UC's 500 labs, was greatly broadened as a result of the issuance of the NRC's Confirmatory Action Letter (CAL) on August 30, 1989. The CAL requires that 100% of non-human use radioactive material use labs be audited/surveyed, and the results and corrective actions taken/planned be submitted to the Commission (Region III) by October 30, 1989.

498 837.

To date, approximately ~~225 (45%)~~ of the referenced labs have been surveyed. While Crosley Tower decon is taking place, three NES representatives are performing the audits/surveys. When decon is complete, all five NES H.P techs (and 2 UC techs) will be added to the audit/survey force to assure that schedules mandated in the CAL met.

3. Presentation of UC-Specific Documents

To date, NES has provided copies of a "Training Manual for Users of Radiation Sources", and "Radiation Safety Committee Operations Guidelines" for UC review/approval. In addition, Revision O of "NES Licensing Audit of the University of Cincinnati's Radiation Safety Program" was issued to UC on September 25, 1989.

4. Training Video

Production of UC's training video is ^{complete} ~~ongoing~~. Actual taping of laboratories and University representatives began on September 25, 1989. The training tape is scheduled for completion by October.

5. PROTOCOL REVIEW

As required by the CAL, prior to the purchase of radioisotopes by approved users, the Radiation Safety Officer, two members of the Radiation Safety Committee, and the Chairman of the Radiation Safety Committee have reviewed each specific protocol for use. To date, review has been initiated approximately on 30% of all protocols.

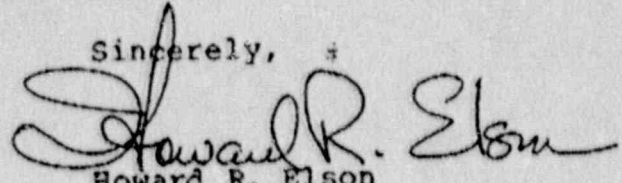
6. Written Notification to Users

On September 1, 1989 a memo ^{was issued by} ~~from~~ J.F. Wiot, M.D., Chairman, Radiation Safety Office which included:

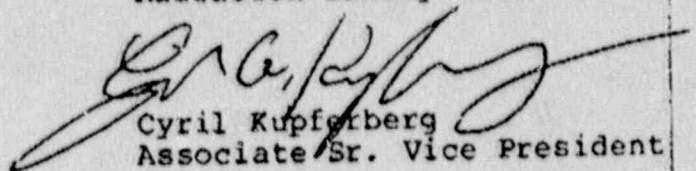
- A. Notification of changes in radiation safety program and included the identification of current program contacts.
- B. A description of technetium-99 contamination in Crosley Tower, including apparent causes.
- C. A notification requiring adherence to all approved protocols.

- D. Return of a signed memo within two weeks of receipt, assuring the adequacy of existing protocols.

Sincerely, *



Howard R. Elson
Radiation Safety Officer



Cyril Kupferberg
Associate Sr. Vice President

HRE:ch
cc: J. Wiot
F. Trejo