

U. S. NUCLEAR REGULATORY REPORT

REGION III

Special Inspection Report No. 030-02764/86-001(DRSS)

Docket No. 030-02764

License No. 34-06903-05

Licensee: The University of Cincinnati (UC)
Cincinnati, Ohio

Inspection At: The University of Cincinnati (UC)

Inspection Conducted: September 11 through December 1, 1986

Inspectors: *Robert E. Burgin*
Robert E. Burgin
Senior Radiation Specialist

12/29/86
Date

Michael A. Kunowski
Michael A. Kunowski
Radiation Specialist

12/29/86
Date

Received By: *D. G. Wiedeman*
D. G. Wiedeman, Chief
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12/29/86
Date

Approved By: *William L. Axelson*
William L. Axelson, Chief
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Safeguards Branch

12/29/86
Date

Inspection Summary:

Inspection on September 11 through December 1, 1986 (Report
No. 030-02764/86-001(DRSS))

Areas Inspected: This was an unannounced special inspection initiated by
allegations received by telephone during September 1986. This inspection
included a review of procedures and records, and activities of UC
representatives.

Results: During the course of this special inspection, both allegations were
substantiated; however, no violations of NRC regulations or license conditions
were identified.

DETAILS

1. Persons Contacted

Eugene L. Saenger, (Former) Chairman, UC Radiation Safety Committee
Ken Fritz, UC Radiation Safety Officer
Howard Boeing, Lab Assistant, Nuclear Engineering Department, UC
Lt. Col. Douglas Knight, Assistant Chief, Campus Security Police, UC
Detective Henson, Campus Security Police, UC
Representatives of the St. Bernard, OH Police Department

2. Purpose of Special Inspection

This special inspection was initiated in response to allegations received by telephone in September 1986. The special inspection began on September 11, 1986, was concluded on December 1, 1986, and included allegation followup activities conducted during a routine inspection of the University's broad scope NRC license in November 1986.

3. Allegations and NRC Findings:

On September 10, 11, and 12, 1986, the alleged contacted NRC Region III and expressed several concerns, questions, and allegations. The alleged, who gave his name as "John Constable" (fictitious), wanted to know if abortion clinics used radioactive material. It was explained that any clinic could apply for an NRC license for use of radioactive material in patient scanning procedures and radioimmunoassay (RIA) techniques for in vitro blood testing (it was also explained that RIA kits could be used without a specific NRC license, per se, but with a "Certificate of Registration" for limited quantities).

The individual was also concerned about possible radioactive contamination at the P&G (Procter & Gamble) Plant near his home (the individual was curious because he had read that P&G had an NRC license, not because he had any reason to suspect contamination). It was explained that P&G had an NRC license, that they are authorized to do research with radioactive material, and that it is possible that they have laboratories with some contamination; however, they are required to monitor the contamination levels and are routinely inspected to assure that there is no threat to the public health and safety.

The individual made several comments concerning protesters, Russian operant conditioning, the jobless rate, and other subjects outside of NRC jurisdiction. Ultimately, he provided the following two statements (allegations):

a. Allegation No. 1

Allegation: It was alleged that the "Old Chemistry Building" was unlocked and unattended, and one room contained "Radiation" signs and a stack of "gray bricks." (It was also stated that this room had canvas on the floor and smelled like paint.)

NRC Findings: Due to the potential health and safety concerns, Mr. Ken Fritz, UC Radiation Safety Officer, was contacted by telephone on September 11, 1986, and was requested to immediately perform an internal (UC) investigation of this allegation. Mr. Fritz notified Region III of his findings that same day, and reported the following:

Mr. Fritz stated that the Old Chemistry Building is usually unlocked, but is clearly posted "No Trespassing. Students, Faculty and Staff Only." The referenced room (Room 412) is a laboratory/classroom which contains a reactor simulator panel (no byproduct material), a graphite pile ("gray bricks") for use with a Pu-Be source which was not present on the day the alleged entered the room, and a subcritical reactor containing approximately 2500 Kg of encapsulated natural uranium rods.

Mr. Fritz stated that the room, which can only be entered through a connected office (see Attachment), was in the process of being painted on September 1, 1986. He further stated that, on June 23, 1986, radiation surveys and wipe tests were conducted to assure the safety of the painters. Survey results indicated no removable contamination, and radiation levels of 1.0 - 2.0 mrem/hour (maximum of 2.0 mrem/hour on the top of the subcritical assembly, which is approximately a five-foot cube). Mr. Fritz indicated that the office leading into Room 412 was locked when unattended.

On November 7, 1986, Mr. Howard Boeing, Lab Assistant for the University's Nuclear Engineering Department and authorized user for the subcritical assembly and Pu-Be source, was interviewed by an NRC inspector. Mr. Boeing stated that, from mid-August thru mid-September, the room was undergoing renovation and painting. Mr. Boeing further stated that, on September 1, 1986, at approximately 1:00 p.m., two painters were in the room working when an individual (the alleged) walked into the room wearing military fatigues, looked around for several seconds, and then left. He further stated that the painters had laid down canvas on the floor, and had the entrance office doors open for ventilation (the room has no windows). Mr. Boeing corroborated Mr. Fritz's statements that the room is locked when unattended, and that the Pu-Be source was not in the room during the renovation.

On September 11 and December 1, 1986, representatives of the University's Campus Security Police were contacted and stated that, at 1:20 p.m. on September 1, 1986, the alleged was found on the sixth floor of the Old Chemistry Building, issued a

"Criminal Trespassing Warning" and asked to leave the campus. The alleged was asked to show his identification first, and was escorted out of the building after the security police verified that he was neither a student nor a faculty or staff member.

Conclusion: It was confirmed that the University's Old Chemistry Building and the office entrance into Room 412 were unlocked on the date of the alleged's entry (September 1, 1986), and that Room 412 did contain a stack of gray bricks and numerous radiation warning signs.

From statements of licensee representatives (including the Campus Security Police), the Old Chemistry Building is always open to university students, faculty and staff (and is posted as such). Because of its accessibility, the Campus Security Police routinely check for unauthorized personnel in the Old Chemistry Building, and issue Criminal Trespassing Warnings, the accumulation of which can result in the arrest of the trespasser.

Room 412 was adequately posted and, from licensee statements, locked when unattended. On September 1, 1986, when the alleged gained access to the room, two painters were present and the outer office doors were open for ventilation.

All radioactive sources had been relocated (with the exception of natural uranium rods contained in the subcritical assembly), and the University's Health Physics staff had performed surveys to indicate that 1) there was no removable surface contamination in the room, and 2) that radiation levels were low enough not to require monitoring devices (e.g., film badges or dosimeters) for the painters.

The University's security staff apprehended the alleged within minutes of his unauthorized entry into the Old Chemistry Building, and escorted him off campus after issuing him a trespassing warning.

It is apparent that adequate precautions are taken by University representatives to assure that members of the public are protected from University-controlled radioactive materials. No violations were identified.

b. Allegation No. 2

Allegation: It was alleged that Dr. Saenger, former Chairman of UC's Radiation Safety Committee, sold his house in Avondale, Ohio (a suburb of Cincinnati) with vials of radioactive material left in the basement. This allegedly occurred 10-15 years ago, and the source of information was the alleged's father.

NRC Findings: On November 7, 1986, Dr. Eugene Saenger was interviewed and recalled the alleged incident. Dr. Saenger stated that, following the death of his father over twenty years ago, he became executor of his father's estate, and subsequently sold his father's house to a

professor at Xavier University. At some time after the sale, several small containers of a "radium solution" were found in the house's sub-basement. Dr. Saenger stated that he was not aware that the material was in the house at the time of sale or who placed the material in the house. He stated that the material could have been remnants of a radium cleanup operation performed at nearby Children's Hospital during the 1950's.

Dr. Saenger did not remember the ultimate disposal of the vials, but did recall that the incident received much attention from the newspapers. At the time of the interview, Dr. Saenger could not locate newspaper clippings that he had saved concerning the incident.

Conclusion: Dr. Saenger's statements corroborate the allegation that he sold his house (actually his late father's house) approximately twenty years ago, and that some vials containing radioactive material (radium) were subsequently found in the basement. This allegation was substantiated; however, no violations of NRC regulations were identified.

Attachment: Schematic
of 400 Level of Old
Chemistry Building, UC

ATTACHMENT

ATTACHMENT

