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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'95 SEP 22 P4:43

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Charles Bechhoefer, Chairman
Dr. Jerry R. Kline
Dr. Peter S. Lam

_____)	
In the Matter of)	
)	
GEORGIA INSTITUTE)	
OF TECHNOLOGY)	Docket No. 50-160-Ren
)	ASLBP NO. 95-710-01-Ren
Atlanta, Georgia)	
)	
Georgia Tech Research)	
Factor)	
)	
Renewal of License No. R-97)	

GEORGIA INSTITUTE OF TECHNOLOGY'S RESPONSE
TO BOARD'S MEMORANDUM AND ORDER OF SEPTEMBER 7, 1995

Licensee Georgia Institute of Technology ("Georgia Tech") responds to the Atomic Safety and Licensing Board's Memorandum and Order issued September 7, 1995.

The issue before the Board at present is whether GANE's Contention no. 5, concerning security during the 1996 Olympics, has been rendered moot by Georgia Tech's agreement to remove the nuclear fuel from its research reactor prior to the Games and to postpone replacing the fuel until after the Games are over.

The Board's Memorandum interprets this "mootness issue" as raising the question as to whether there is a valid contention "concerning material that was not included in the Applicant's

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offer to remove material from the site but nonetheless was among the materials for which GANE in its initial contention sought relief during the 1996 Olympic Games." (Memorandum and Order, p. 1.) The Board follows that statement of the issue by observing, "In Paragraph 3 of CLI-95-10, the Commission had inquired whether the security of such residual material might constitute a valid contention." Georgia Tech must respectfully question the accuracy of both of these statements.

The undersigned counsel for Georgia Tech has carefully reviewed GANE's Contention number 5 as included in its "Amended Petition for Leave to Intervene in Consideration of Application for Renewal of Facility License," dated December 30, 1994. (Copy of Contention 5 attached as Exhibit 1.) The undersigned sees no reference in this Contention to any concern except the research reactor.

The undersigned has also carefully reviewed the Commission's Memorandum and Order, CLI-95-10, including the third paragraph of the Order. The undersigned sees no reference to an inquiry as to "whether the security of such residual material might constitute a valid contention" in paragraph 3 or elsewhere in the Memorandum and Order. It is, of course, possible that counsel has misread this Order, as well as GANE's Contention no. 5 but careful study does not reveal the references cited in the Board's Memorandum and Order.

As argued in Georgia Tech's "Statement as to Issue of Mootness of Contention 5," filed August 28, 1995, it is Georgia

Tech's position that this Board is without jurisdiction to consider the issue of storage of cobalt on the Georgia Tech's campus. This matter is before the Board and the Commission on Georgia Tech's application for renewal of its reactor license. The legal authorities supporting Georgia Tech's position have been briefed in its earlier Statement and in the Staff's "Response to the Request for Hearing on the Conversion Order filed by GANE," (Response, filed in Docket No. 50-160-OM on July 26, 1995) and will not be repeated here.

Georgia Tech would respond to the factual assumptions underlying GANE's attempt to raise the cobalt issue in this license renewal proceeding by attaching correspondence from the Georgia Department of Natural Resources, Environmental Protection Division, to Georgia Tech concerning the cobalt in question. These letters document ongoing inspection of the Georgia Tech facility in full compliance with state and federal law. (Correspondence dated May 14, 1990, October 21, 1993, and November 3, 1993, attached as Exhibits 2-4.)

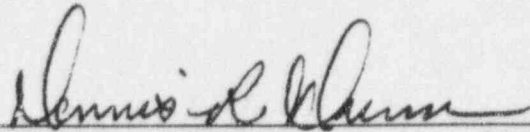
Wherefore, Georgia Tech respectfully requests this Board to reverse its Order with respect to Contention 5 and to determine that such Contention is now moot.

Respectfully submitted,

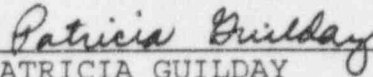
MICHAEL J. BOWERS
Attorney General

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(Signatures continued on next page.)



DENNIS R. DUNN 234098
Senior Assistant Attorney General



PATRICIA GUILDAY 315113
Assistant Attorney General

PLEASE ADDRESS ALL
COMMUNICATIONS TO:

PATRICIA GUILDAY
Assistant Attorney General
Georgia Department of Law
40 Capitol Square, S.W.
Atlanta, Georgia 30334-1300

DOCKETED
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'95 SEP 22 P4:43

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

Charles Bechhoefer, Chairman
Dr. Jerry R. Kline
Dr. Peter S. Lam

In the Matter of)
)
GEORGIA INSTITUTE)
OF TECHNOLOGY) Docket No. 50-160-Ren
) ASLBP NO. 95-704-01-Ren
Atlanta, Georgia)
)
Georgia Tech Research)
Reactor)
)
Renewal of License No. R-97)

GEORGIA INSTITUTE OF TECHNOLOGY'S
CERTIFICATE OF SERVICE

I do hereby certify that copies of the foregoing Georgia Institute of Technology's Response to Board's Memorandum and Order of September 7, 1995 have been served upon the following persons by U.S. Mail, except as otherwise noted and in accordance with the requirement of 10 C.F.R. Sec. 2.712:

Administrative Judge
Peter S. Lam
Atomic Safety And Licensing
Board
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Atomic Safety and Licensing
Board Panel
Mail Stop: T-3 F23
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Administrative Judge
Jerry R. Kline
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Glenn Carroll
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Atlanta Georgia 30306

Office of the Secretary (2)
Attn: Docketing and Service
Mail Stop: OWFN-16 G15
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Adjudicatory File (2)
Atomic Safety and Licensing
Board
Mail Stop: T-3 F23
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

This 18th day of September, 1995.

Patricia Guilday

PATRICIA GUILDAY
Assistant Attorney General

UNITED STATES OF AMERICA

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Charles Bechhoefer, Chairman
Dr. Jerry R. Kline
Dr. Peter S. Lam



In the Matter of

Docket No. 50-160-Ren

GEORGIA INSTITUTE OF TECHNOLOGY
RESEARCH REACTOR
Atlanta, Georgia
Facility License No. R-97

ASLBP No. 95-704-01-Ren

GEORGIANS AGAINST NUCLEAR ENERGY
AMENDED PETITION FOR LEAVE TO INTERVENE
IN CONSIDERATION OF APPLICATION FOR RENEWAL OF FACILITY LICENSE

Georgians Against Nuclear Energy (GANE) respectfully petitions the Nuclear Regulatory Commission for intervenor status in the consideration of Georgia Institute of Technology's request to renew Facility License No. R-97 to operate the Georgia Tech Research Reactor on Georgia Tech campus in downtown Atlanta. We request that a public hearing be held concerning the license renewal. (Docket No. 50-160 License Renewal Application dated April 19, 1994, Federal Register Notice September 26, 1994, page 49088.)

GANE feels that the Georgia Tech Research Reactor on Georgia Tech campus has a history of poor management and lack of utility. The reactor is located in the heart of an extremely densely populated area. The reactor is at the heart of Georgia Tech campus which has a population of 13,000 students and 5,000 faculty and staff. Within a one-mile radius, Georgia Tech acknowledges a residential and business population of 30,000 (Safety Analysis Report for the 5MW Georgia Tech Research Reactor, April 1994, p. 2) although actual 1990 census figures are 60,000. The City of Atlanta population is 394,000

4. GANE contends that the reactor site is unsafe because it suffers from unstable geologic conditions. The stability of the foundation of the reactor building is in question because of an underground water flume directly below the reactor (City of Atlanta Sewer Map, CH2M Hill, 1988). Witnesses remember a sinkhole swallowing a man adjacent to the reactor building 20 years ago. The fact that Georgia Tech has no documentation of this event is negligent.

In June 1993 a major, 100-year-old Atlanta sewer line that runs under Georgia Tech campus 1/4-mile from the reactor building suffered a catastrophic collapse, swallowing two people to their death along with two automobiles. This Orme Street Line has persistently caused flooding of many structures on Georgia Tech campus. There is an aging, 6' pipe tunnel directly under the reactor (SAR, map, p.30). The 1993 incident made national headlines and prompted the Commission to request a long-overdue sewer line study (Alternatives, 9/93). This is the same study previously cited which is under question now by the NRC.

The reactor is sited atop the Wahoo Creek Formation, a slabby, viscous and muddy medium-grained muscovite plagioclase gneiss which tends to break across oblique planes (Georgia Geologic Survey Bulletin #96). This is not the solid bedrock formation that the reactor's management assumes (Alternatives, 9/93).

A very large crack caused by water damage is visible in the viewing room to the reactor room. The reactor, a few yards from the damaged wall suffers the same structural stresses from foundation shifting due to underground hydrologic activity (Glenn Carroll, eyewitness).

The credibility of Georgia Tech is again called into question by their treatment of this area in the SAR. The SAR gives a general description of the geology of the Atlanta region and the southeastern United States but largely ignores the specific site (SAR, p.21-23). The SAR does provide some information which should inspire caution but seems to be unappreciated by Georgia Tech. The water table is as close as 11 feet under the surface in some places (SAR, p. 23) and the parking lot and reactor building lie in a low area which is a natural drainage path (SAR, map, p.30). This low-lying area experiences regular flooding and tends to be damp and saturated.

5. GANE contends that GTRR is unsafe to the public because of inadequate security systems. Reactor security is grossly inadequate. The reactor building may be accessed directly from the outside, no personnel are assigned to the building outside of normal business

hours. Essentially, the entire security system consists of a chain-line fence with some barbed wire on top. Wire-cutters would be sufficient to breach the fence (Glenn Carroll, eyewitness).

The presence of the Olympics in Atlanta in 1996 creates a specific situation which has historically attracted terrorist activity and threats. The reactor uses highly enriched uranium as fuel. During refueling this bomb-grade uranium fuel is a tempting target for terrorists. The presence of fissionable and highly radioactive fission byproducts at the reactor, make the reactor not only a tempting target for theft of bomb-grade or hazardous materials, but a target for a World Trade Center-type bombing which would not only injure residents and visitors to Atlanta, but create an international diplomatic disaster for the United States.

The roof which is nothing but 7/16" thick steel sheet-metal (SAR, p.44, Fig. 4-8) and would easily be breached by a rocket-launcher or hand-thrown grenade.

6. GANE contends that the GTRR is unsafe to the public because it has not been and is not now being monitored adequately. Georgia's EPD is charged with monitoring the facility (Georgia Radiation Control Act of 1976). In the Act EPD is given responsibility for monitoring air, water and sediments. The EPD reports are inadequate in several respects. No air monitoring has been performed around the facility. Some isotopes are monitored for effluent discharge to city sewers and deposition around the site. Many isotopes are unmonitored altogether. Off-site monitoring has never been done. Over the years EPD has shown a consistent pattern of diminishing oversight, dropping whole categories from monitoring. The weak monitoring and reporting effort culminates in EPD's not even publishing the annual reports since 1989. Water monitoring was discontinued in 1980. Further, a TLD error was detected in 1985, so that all data from 1979-1984 had to be corrected (Georgia DNR-EPD Radiation Surveillance Report). We have no confidence that we really know what is going on at the Tech reactor.

From discussion with certain personnel from EPD Environmental Radiation Division it appears that regulatory authority may not be clear to the regulators themselves. This regulatory void places the public in serious harm.

Strontium-90 and cesium-137, two isotopes with a high uptake profile are unmonitored as previously noted (SAR, p.204, Table C.1).

There are some areas which hint of conflict of interest. The Georgia EPD is a big customer of the Tech reactor. What little air monitoring



James G. Ledbetter, Ph.D., Commissioner

RADIOLOGICAL HEALTH SECTION - ROOM 600
OFFICE OF REGULATORY SERVICES

878 PEACHTREE STREET, N.E. / ATLANTA, GEORGIA 30309

May 14, 1990

Dr. John P. Crecine
Georgia Institute of Technology
Atlanta, Georgia 30332-0325

Dear Dr. Crecine:

This letter refers to the inspection conducted by Ms. Elizabeth Drinnon and other staff of this office during April 1990, of the activities authorized by Georgia Radioactive Materials License Numbers GA. 147-1 and GA. 21-2 (SMN) and to the discussion of our findings held by Ms. Drinnon with Dr. Gary Poehlein, Dr. Ratib Karam and Dr. Betty Revsin on May 14, 1990.

The inspection was an examination of the activities conducted under the licenses as they relate to radiation safety and to compliance with Georgia Department of Human Resources "Rules and Regulations for Radioactive Materials," Chapter 290-5-23, and the conditions of the licenses. The inspection consisted of selective examinations of procedures and representative records, interviews of personnel, independent measurements and observations by the inspector.

No items of noncompliance with Department of Human Resources requirements were found during the inspection.

If you should have any questions or require assistance concerning this matter, please do not hesitate to call on us.

Sincerely,

Thomas E. Hill, Acting Director
Radiological Health Section
Office of Regulatory Services

TEH:edy

cc: Dr. Gary Poehlein
Dr. Betty Revsin, ✓

Georgia Department of Natural Resources

205 Butler Street, S.E., East Floyd Tower, Atlanta, Georgia 30334

Joe D. Tenner, Commissioner
Herold F. Rehrs, Director
Environmental Protection Division

October 21, 1993

RECEIVED
GEORGIA INSTITUTE
OF TECHNOLOGY

OCT 25 1993

Dr. John P. Crecine
President
Georgia Institute of Technology
Atlanta, Georgia 30332

NUCLEAR RESEARCH CENTER

Dear Dr. Crecine:

This letter refers to the inspection conducted by Cornelius Maryland and Ralph McCoy of this office on October 12 thru 15, 1993. At the conclusion of the inspection of activities authorized by Georgia Radioactive Material License No. GA. 147-1, a discussion of our findings was held by Cornelius Maryland and Ralph McCoy with Dr. Ratib Karam, Dr. Ron Ice, Jerry Taylor, and Edgar Jabweh.

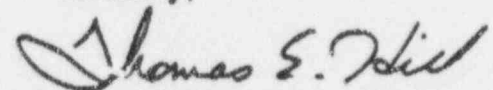
The inspection was an examination of the activities conducted under the license as they relate to radiation safety and to compliance with Georgia Department of Natural Resources "Rules and Regulations for Radioactive Materials," Chapter 391-3-17, and the conditions of the license. The inspection consisted of selective examinations of procedures and representative records, interviews of personnel, independent measurements and observations by the inspector.

Based on the results of this inspection, it appears that one of your activities was not conducted in full compliance with requirements, as set forth in the Notice of Violation.

The purpose of this letter is to afford you an opportunity to furnish a statement or explanation in writing regarding: (1) corrective steps which have been taken by you and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date full compliance will be achieved. Your reply should be sent to the Radioactive Materials Program within thirty (30) days of this letter to assure that it will receive proper attention and allow further evaluation of this matter.

If you should have any questions or require assistance concerning this matter, please do not hesitate to call on us.

Sincerely,

Thomas E. Hill, Manager
Radioactive Materials Program

cc: Dr. Karam



Georgia Institute of Technology

NEELY NUCLEAR RESEARCH CENTER
900 ATLANTIC DRIVE
ATLANTA, GEORGIA 30332-0425
USA

(404) 894-3500

November 3, 1993

Mr. Thomas E. Hill, Manager
Radioactive Materials Program
Georgia Dept. of Natural Resources
205 Butler Street, S.E.
East Floyd Tower
Atlanta, GA 30334

Dear Mr. Hill:

I am responding to your letter of Oct. 21, 1993 to Dr. John P. Crecine concerning the inspection conducted by Mr. Cornelius Maryland and Mr. Ralph McCoy on Oct. 12 through 15, 1993 of activities authorized under license No. GA-147-1SNM.

Violation: License condition 19 requires that the radioactive material be leak tested at six months intervals. Contrary to this requirement, three Ni⁶³ sources used by Principal Investigator No. 111 were last leak tested on January 13, 1992. This exceeds the leak test requirement.

Reply

1. Admission or denial of the violation:

The Georgia Institute of Technology agrees with the violation as stated.

2. The reason for the violation:

A former employee forgot to log the three Ni⁶³ sources into our computerized list of isotopes to be leak tested every six months. This failure was not detected until Mr. Maryland and Mr. McCoy performed their inspection.

3. Corrective steps which have been taken and the results achieved:

The three Ni⁶³ sources were leak tested on October 14, 1993 and found to be non-leaking, i.e. integrity maintained.

EXHIBIT 4

Mr. Thomas E. Hill, Manager
November 1, 1993
Page 2

The three Ni⁶³ sources have been logged on our computerized list of radioactive isotopes to be leak tested every six months.

4. Corrective steps which will be taken to avoid further violations:

The Neely Nuclear Research Center, through the office of the Manager of Office of Radiation Safety, will review our records to verify that all radioactive sealed sources are properly logged and that leak tests are performed on time. The review will be finished December 31, 1993.

Our procedure will be revised such that when a radioactive source is first received at Neely Nuclear Research Center, one staff member will log the source into our computerized list and another staff member, different from the first, will verify that the radioactive source has been properly logged. The procedure revision will assure that the action or inaction of any one staff member will be caught in a timely manner, i.e., before appropriate record on the source is filed away. The procedure revision will be accomplished December 31, 1993.

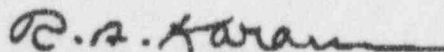
The Health Physics staff have collectively discussed the problem of the three Ni⁶³ sources and were made aware of the consequences of the clerical error committed by the former staff member.

5. Date of Full Compliance:

Full compliance will be accomplished December 31, 1993.

Should you have any questions about our response, please let me know.

Sincerely,



R.A. Karam, Ph.D., Director
Neely Nuclear Research Center

RAK/ccg

cc: Dr. John P. Crecine
Dr. Mike Thomas
Dr. Gary Poehlein
Dr. R. Ice

Notice of Violations

Georgia Institute of Technology
Neely Nuclear Research Center
900 Atlantic Drive
Atlanta, Georgia 30332

License Number GA. 147-1

Based on the results of a Georgia Department of Natural Resources inspection conducted on October 12 thru 15, 1993, it appears that one of your activities was not conducted in full compliance with "Georgia Rules and Regulations for Radioactive Materials," Chapter 391-3-17 as indicted below:

- A. License Condition 19 requires that the radioactive material be leak tested at six months intervals.

Contrary to this requirement, three nickel 63 sources used by Principal Investigator 111 were last leak tested on January 13, 1992. This exceeds the leak test requirement.