

17335

RELATED CORRESPONDENCE

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USNRC

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

'95 DEC -4 P2:56

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

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

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

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

GEORGIA INSTITUTE OF TECHNOLOGY'S RESPONSES  
TO GANE'S DISCOVERY

Licensee Georgia Institute of Technology ("Georgia Tech")  
responds to the discovery served by GANE on June 5, 1995 as  
follows:

Introduction

GANE's discovery includes requests which obviously relate  
to Contention 5, regarding security at the Georgia Tech  
facility during the 1996 Olympic Games. The Licensing Board  
has determined that Georgia Tech's agreement to remove its high  
energy uranium from its facility before the Olympics has  
rendered Contention 5 moot as respects the reactor fuel. For  
this reason, Georgia Tech will not respond to those discovery

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requests which relate purely or primarily to security and which have no obvious relationship to Contention 9, the management issue.

The Licensing Board has also determined that it does not have authority to hear any issues regarding the cobalt-60 and cesium-137 and Georgia Tech will not respond to any discovery requests which pertain to either of these substances.

#### General Objections

Many of GANE's requests state a time frame from either 1964 forward or 1980 forward. Georgia Tech objects to production of information or documents which relate to any document, event, person, or specific information dating prior to 1985. This objection is based upon grounds of relevancy, overbreadth, and burdensomeness. Contention 9 raises the issues of current management practices and changes in such practices because of or subsequent to events in 1988. Information more than three years prior to 1988 has no relevance to those issues nor is such information likely to lead to the discovery of admissible evidence. The task of identifying information dating back fifteen or thirty years from today would be overwhelming. Georgia Tech would be required to spend time and financial resources searching for information which would provide no useful information to GANE or to the Atomic Safety and Licensing Board.

Georgia Tech states that it raises the above objection in response to every discovery request including the overbroad time frames. Georgia Tech states that in every such case, it is producing information dating 1985 forward.

## Interrogatories

Interrogatories 1 through 12 relate purely or primarily to the security issue and no response is required of Georgia Tech to these interrogatories.

1. What security is now in place for the Neely Nuclear Research Center including but not limited to guards, alarms and camera surveillance?

2. How do you respond to each different type of alarm or threat.

3. What is the response time?

4. Has anyone ever made an attempt to break in and how fast did the police respond?

5. What training do Georgia Tech police have to deal with real sharp terrorists and saboteurs inside and around the Neely Nuclear Research Center?

6. How do you test the present security plan?

7. What scenarios does the security plan for the Neely Nuclear Research Center cover?

8. What is the worst case scenario envisioned in the formation of the present security plan?

9. What is the emergency response plan for each scenario?

10. What is the criteria for notifying the following agencies: campus police, Atlanta Police Department, Fulton County Police Department, Nuclear Regulatory Commission, Georgia Environmental Protection Division, local fire departments?



11. What is the security plan for the 1996 Olympic Games and which agencies or institutions are responsible for its implementation?

12. What drills or tests of the Olympic security plan or other simulated emergency response activities will take place before the 1996 Olympics and what agencies and institutions are responsible for these tests?

13. List an inventory of all radioactive and hazardous materials contained in the Neely Nuclear Research Center, including the number of curies for each radioactive substance listed and exact locations.

Response: Attachment I lists all radioactive and hazardous materials at GTRR. The exact location of the material is classified information.

14. Where is the spent fuel?

Response: GTRR has no spent fuel. All fuel is used in the reactor.

15. Is there a load of fresh fuel on the premises, and if so, where is it?

Response: GTRR does not have a load of fresh fuel on the premises.

16. What are Georgia Tech's current plans to switch to low-enriched uranium fuel at the Neely Nuclear Research Center and what effect if any would this change have on the security plan?

Response: To the extent that this interrogatory relates to

the security issue, no response is required of Georgia Tech to this interrogatory. For information concerning the replacement of the high-enriched uranium fuel to low-enriched fuel, see documents provided to the NRC.

17. Describe the Nuclear Safeguards Committee including its functions, when formed and why and to whom it reports.

**Response:** The charter and responsibilities for the Nuclear Safeguards Committee are as specified in the Technical Specifications of the license from NRC and are set forth below:

A Nuclear Safeguards Committee shall be established by the President of Georgia Tech which shall be responsible for maintaining the health and safety standards associated with the use of radioactive materials on the Georgia Tech campus (regulated by the State of Georgia) and the operation of the GTRR (regulated by the U.S. Nuclear Regulatory Commission).

A. Membership

The Nuclear Safeguards Committee shall be composed of senior technical personnel who provide experience in radiological safety, radiation protection, reactor engineering, reactor operations, chemistry and radiochemistry, instrumentation-control systems, and mechanical and electrical systems.

B. Responsibilities

1. The Committee shall meet quarterly at a minimum.

2. The Committee shall review and approve proposed experiments and tests utilizing radioactive material, the reactor facility, the hot cell facility, and all other types of ionizing radiation on the Georgia Tech campus.
3. The Committee shall review and approve proposed operating procedures and health physics procedures for the GTRR and the Georgia Tech campus. It shall also review and approve revisions to already existing procedures. Minor modifications to procedures which do not change the original intent of the procedure may be approved by the Director, Neely Nuclear Research Center (NNRC), or his designee.
4. The Committee shall review reportable occurrences.
5. The Committee shall review and approve proposed changes to the GTRR made pursuant to 10 C.F.R. §50.59(c), and the regulations of the State of Georgia as contained in Chapters 290-5-22 and 391-3-17 of the State Rules and Regulations.
6. The Committee shall audit reactor operations for adequacy and reactor operational records

for compliance with internal rules, procedures, regulations, license conditions and Technical Specifications on an annual basis.

7. For the GTRR, the Committee shall audit plant equipment performance with particular attention to operating anomalies, reportable occurrences, and the steps taken to identify and correct their causes on an annual basis.
8. Minutes of the Committee meetings, including any recommendations or occurrences, shall be recorded and distributed to all committee members and the President's Office. Committee minutes will also be filed in the NNRC office.
9. The Committee shall review and approve all applications for the use of ionizing radiation on the Georgia Tech campus including radioactive materials and radiation generating devices.
10. The Committee may delegate authority to the Chairperson or a Subcommittee to act in its behalf between normal meeting dates in certain matters. In such a case, at the next meeting of the Committee, the full membership shall be informed of any such

action that has taken place (e.g., authorization for a new PI to use radioactive materials).

11. Appointments of members to the Committee shall be for three years. The Committee reports to the President of the Institute.

18. Describe the selection process for the Nuclear Safeguards Committee. Include criteria for membership, nomination process and who is responsible for final selection.

**Response:** See Georgia Tech's answer to interrogatory 17 above. In further response to this interrogatory, Georgia Tech states that the names are selected from a list of names the NSC prepares. If a person whose name is on the list is willing to serve, he/she is nominated to the President of the Institute. The resume of that person is submitted to the President for evaluation. The selection of members of NSC is done by the President.

19. List the names of all persons currently serving on the Nuclear Safeguards Committee, including the process by which each person was chosen, by whom each person was nominated and each person's qualifications for the position on the committee.

**Response:** See Attachment II to these discovery responses.

20. Describe the Radiation Protection Committee, including its functions, when it was formed, when it was dissolved, and why it was dissolved.

**Response:** There was no charter of which any current

staff member of NNRC is aware for the Radiation Protection Committee. The function(s) of that Committee overlapped significantly with the functions and charter of NSC (see answer to Question 17). No one currently on the NNRC staff knows when the RPC was formed. It was dissolved in May of 1987. Its functions were merged with the Nuclear Safeguards Committee.

21. List the names of all persons who formerly served on the Radiation Protection Committee, including, for each person listed, the dates of service, position held, last known telephone number and address and whether they at any time ever served on the Nuclear Safeguards Committee and when such service took place.

Response: Georgia Tech incorporates its General Objection as to time frame as set forth above and states that all information responsive to this request was long ago archived. It would take literally months to retrieve such information. Georgia Tech has attached the requested information for the years 1985 forward.

22. List the names of all persons who formerly served on the Nuclear Safeguards Committee, including their dates of service and qualifications, position held, last known telephone number and address.

Response: See Georgia Tech's response to interrogatory no. 21 above.

23. Describe any changes to the function and responsibility of the Nuclear Safeguards Committee during its



history. What was the rationale for changes made?

Response: See Georgia Tech's response to interrogatories no. 17 and 21 above.

24. Describe, with specificity, the event which took place at the Neely Nuclear Research Center on March 23, 1995, involving the cobalt-60 shielding pool. Include all response actions taken, naming each person involved and their respective positions, including their department, agency or institution.

Response: See Attachment III to these discovery responses.

25. Describe, with specificity, the measures and actions taken to correct the problem which caused the event involving the cobalt-60 pool on 3/23/95.

Response: The pool is designed to be self-protecting, e.g., it cannot be drained under normal conditions. Additionally, the technician who left the valves open was trained and counseled about performing this job properly.

26. What was the basis for firing two highly specialized health physicists--Steve Millspaugh and Paul Sharpe in February 1988?

Response: See Attachment IV to these discovery responses.

27. List the people from 1980 to the present who have held the position of Radiation Safety Officer or equivalent, their experience level, qualifications, and reasons for leaving.

Response: See Georgia Tech's response to interrogatory no. 21 above. In further response to this interrogatory, Georgia Tech states that the following individuals have held the



position of Radiation Safety Officer:

Bob Boyd, B.S., Meteorologist

-left because of policy differences with management

Dr. Betty Revsin, Ph.D., Health Physicist

-left because of health reasons

Dr. Brian Cupcutt, Ph.D., Health Physicist

-left for higher paying job in California

Dr. Rodney Ice, Health Physicist

current manager of the Office of Radiation Safety.

There were also two temporary appointees to this office:

Mike Puckett, B.S., Psychology

Jim O'Hara, B.S., Mechanical Engineering

Interrogatories 28 through 31 relate purely or primarily to the security issue and no response is required of Georgia Tech to these responses. Georgia Tech also incorporates its General Objections herein as set forth above.

28. What is the security plan for a truck bomb?

29. How many campus police are sent in response to alarm activation?

30. How does the security plan provide against arson?

31. Is there an alarm that is activated by radiation levels?

Interrogatories 32 through 36 relate to cobalt-60 and cesium-137, matters over which the NRC has no jurisdiction and which are not at issue in this license-renewal proceeding. Accordingly, no response is required of Georgia Tech to these interrogatories.

32. How many times has the cobalt-60 pool water level dropped?

33. How many times has the alarm on the cobalt-60 pool been activated?

34. What is the evaporation rate of the cobalt-60 pool?

35. Describe, with specificity, for what contract work and purposes the cobalt-60 is used. Include all contract work and specific projects from 1980 to the present.

36. Describe, with specificity, for what contract work and purposes the cesium-137 is used. Include all contract work and specific projects from 1980 to the present.

37. Describe, with specificity, for what contract work and purposes the reactor is used. Include all contract work and specific projects from 1980 to the present, accounting for all time logged in State of Georgia records.

Response: Georgia Tech will make documents which include the information sought in this interrogatory available for review by GANE at a mutually convenient date and time.

### Request for Production of Documents

Requests 1 through 9 and 12 through 15 relate purely or primarily to the security issue and no response is required of Georgia Tech to these requests.

1. Entire security plan for the Neely Nuclear Research Center.

2. Preamble to security plan for Neely Nuclear Research Center.

3. Amendments to security plan for Neely Nuclear Research Center.

4. Special security plan for Neely Nuclear Research Center for 1996 Olympic Games.

5. All correspondence to date, and continuing, related to development and all phases of security plan for Neely Nuclear Research Center, including but not limited to FBI, CIA, GBI, Georgia Emergency Management Agency, FEMA, National Guard, Alcohol, Tobacco, and Firearms, City of Atlanta Police, Fulton County Police, Georgia State Patrol, Atlanta Olympic Committee, International Olympic Committee, Georgia Tech campus security, City of Atlanta Fire Department, Fulton County Fire Department, William James Ray's office, Department of Energy, Department of Defense, NRC and Georgia Environmental Protection Division.

6. All Georgia Tech campus police audit records, inspection reports and test records pertaining to Neely Nuclear Research Center.

7. All audits, inspection reports and test records of

Georgia Tech campus security, both internal and independent.

8. Georgia Tech campus police security log from 1980 to present.

9. Minutes from all meetings (1964 to present) of Georgia Tech Nuclear Safeguard Committee and Radiation Protection Committee.

Response: Georgia Tech will make documents responsive to this request available for review by GANE at a mutually convenient date and time.

10. All correspondence, 1964 to present, between Neely Nuclear Research Center and Georgia Tech administration concerning security at Neely Nuclear Research Center.

11. All correspondence, 1964 to present, between Neely Nuclear Research Center and Georgia Tech campus security concerning security at Neely Nuclear Research Center.

12. All internal correspondence, 1964 to present, within Neely Nuclear Research Center concerning facility security.

13. All documents related to protection of Neely Nuclear Research Center from truck bombs.

14. All correspondence which was shared, traded or exchanged between Atlanta, Georgia Tech, State of Georgia or NRC officials and local hospitals or medical clinics relating to the actions and precautions to be taken in the event of a nuclear accident, including any data involving radiation poisoning and the hospitals' and medical clinics' response.

15. Campus police logs and Nuclear Research Center logs

for all alarm activations and responses (1964 to present).

16. All documents relating to March 23, 1995 incident where alarm activated from water level drop in cobalt-60 pool.

Response: See answer to Interrogatory no. 24.

Requests 17 through 23 relate purely or primarily to the security issue and no response is required of Georgia Tech to these requests.

17. Entire emergency response plan for Neely Nuclear Research Center.

18. Any and all Georgia Tech employee manuals that relate to employee responsibilities during emergency response situations at the Neely Nuclear Research Center, including but not limited to employees of the Neely Nuclear Research Center and campus police.

19. All Georgia Tech campus police reports and records which refer to activities and/or security breaches at Neely Nuclear Research Center from 1980 to present.

20. All internal reports, memoranda and other correspondence generated by Neely Nuclear Research Center staff relating to any security breaches or in response to any alarms or other security alert mechanisms from 1980 to the present.

21. All documents generated in both planning and evaluation of any drills, evacuation plans or other such simulated emergency response activities designed to test the adequacy and efficacy of the current security plan for the

Neely Nuclear Research Center.

22. All documents relating to changes in the existing security plan for the Neely Nuclear Research Center as a result of Georgia Tech's intended change from high-enriched uranium fuel to low-enriched uranium fuel.

23. All records related to the division of authority/responsibility between the State of Georgia and the NRC with regard to the safety requirements at the Neely Nuclear Research Center from 1964 to the present.

24. Records showing the complete inventory of radioactive and hazardous materials at the Neely Nuclear Research Center including their original locations, current ownership and regulating authority.

Response: See answer to Interrogatory no. 24. The location of the fuel is not divulged for security reasons.

25. Records instructing employees of Georgia Tech how to implement and apply Georgia Tech's rules for evacuating the Neely Nuclear Research Center and issuing an emergency alert to the surrounding community.

Response: This request relates purely or primarily to the security issue and no response is required of Georgia Tech to this request.

26. All insurance inspections, reports, and audits concerning Neely Nuclear Research Center.

Response: This request relates purely or primarily to the



security issue and no response is required of Georgia Tech to this request.

27. Dr. Ratib A. Karam's resume or curriculum vitae at time of hiring (1983-84).

Response: Georgia Tech will make these documents available to GANE for review at a mutually convenient date and time.

28. All documents which describe the criteria for nominations and selections for membership on the Nuclear Safeguards Committee.

Response: See answers to Interrogatory nos. 17 and 18 above.

29. All resumes or curriculum vitae for all persons currently serving on the Nuclear Safeguards Committee.

Response: Georgia Tech will make these documents available to GANE for review at a mutually convenient date and time.

30. All documents generated for the purpose of authorizing each person currently serving on the Nuclear Safeguards Committee.

Response: Georgia Tech does not understand exactly what documents are sought by this request but will make documents it believes to be responsive to this request available to GANE for review at a mutually convenient date and time.

31. Entire personnel files, including resumes, performance reviews and reasons for termination, from 1964 to present, for all radiation safety officers, health physicists (or



equivalent) and all other staff employed at the Neely Nuclear Research Center.

**Response:** Georgia Tech incorporates its General Objections as to timeframe as set forth above and will respond to this Request only as to documents which relate to 1985 or later.

Documents otherwise responsive to this request are available for review by GANE at a mutually convenient date and time.

32. Entire personnel file for Dr. Ratib A. Karam.

**Response:** Documents responsive to this request are attached.

33. All documents, logs, manifests and other bills of lading relating to the transport of hazardous and radioactive materials and wastes, including heavy water, to and from the Neely Nuclear Research Center from 1964 to the present.

**Response:** See Georgia Tech's response to Request no. 31 above. Documents otherwise responsive to this request are available for review by GANE at a mutually convenient date and time.

34. Mission statement for the Neely Nuclear Research Center and/or Georgia Tech Research Reactor.

**Response:** See Attachment V to these responses.

35. Detailed records of all financial resources (income) for the Neely Nuclear Research Center, including but not limited to, contracts, grants, endowments, State of Georgia

appropriations, Federal appropriations, Department of Energy, Department of Defense, Georgia Environmental Protection Division, Savannah River Site, Westinghouse, General Electric, Tennessee Valley Authority, Oak Ridge, Georgia Power Company, Duke Power Company, Coca Cola Company, and other universities and colleges.

Response: See Georgia Tech's response to Request no. 31 above. See also Attachment VI to these responses which shows total state appropriated funds and total sponsor support. For specific list of sponsors, see answer to Request nos. 45-48 below.

36. All annual reports on Neely Nuclear Research Center. 1964 to present.

Response: See Georgia Tech's response to Request no. 31 above. Georgia Tech will make documents otherwise responsive to this request available to GANE for review at a mutually convenient date and time.

37. All audit reports on Neely Nuclear Research Center relating to safety matters, management matters, or financial matters.

Response: See Georgia Tech's response to Request no. 31 above. Georgia Tech will make documents otherwise responsive to this request available to GANE for review at a mutually convenient date and time.

38. Records describing the steps necessary to decommission the Neely Nuclear Research Center, including responsible

entities, where the radioactive material is planned to be shipped, containment systems to be used, shipping methods, and associated costs.

Response: Georgia Tech objects to this request on grounds of relevancy. Georgia Tech further objects to this request on the ground that it calls for a legal conclusion. The information requested is a matter of statutory or regulatory law.

39. All correspondence of Georgia Tech to NRC responding to violations cited or noted in NRC Inspection Reports from 1980 to the present.

Response: See Georgia Tech's response to Request no. 31 above. Georgia Tech will make documents otherwise responsive to this request available to GANE for review at a mutually convenient date and time.

40. Blueprints re design and construction of containment building as provided the NRC on or about 10/22/93.

Response: Georgia Tech will make documents responsive to this request available to GANE for review at a mutually convenient date and time.

41. All records relating to AGN-201 reactor and fuel elements.

Response: Georgia Tech will make documents responsive to this request available to GANE for review at a mutually convenient date and time.

42. Georgia Tech's response to NRC request for information

on sewer line condition dated 11/4/94.

**Response:** Georgia Tech will make documents responsive to this request available to GANE for review at a mutually convenient date and time.

43. All documentation relating to the firing of Steve Millspaugh and Paul Sharpe in 2/88 beyond that included in the personnel files.

**Response:** Georgia Tech will make documents responsive to this request available to GANE for review at a mutually convenient date and time.

44. All records of communication between Neely Research Center and local fire authorities concerning arson or emergency response to fire.

**Response:** This request relates purely or primarily to the security issue and no response is required of Georgia Tech to this request.

45. All logs concerning the specific usage of the reactor.

**Response:** A printout of the contracts will be provided. Georgia Tech will make available to GANE any contracts it designates, assuming such contract is not classified.

46. All contracts relating to work done by the Neely Nuclear Research Center for any and all entities which required use of the reactor.

**Response:** See Georgia Tech's response to Request no. 31 above. Georgia Tech will make documents otherwise responsive to this request available to GANE for review at a mutually

convenient date and time.

47. All contracts relating to work done by the Neely Nuclear Research Center for any and all entities which required use of the cobalt-60.

Response: Georgia Tech objects to this request on the grounds that the cobalt-60 is not at issue in this license renewal proceeding.

48. All contracts relating to work done by the Neel Nuclear Research Center for any and all entities which required use of the cesium-137.

Response: Georgia Tech objects to this request on the grounds that the cesium-60 is not at issue in this license renewal proceeding.

Permission to Enter and Inspect

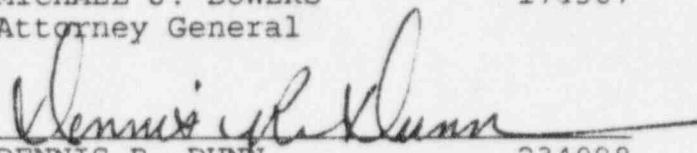
GANE requests permission from Georgia Tech to enter and inspect the Neely Nuclear Research Center's physical security system with an independent security consultant and an independent electrical engineer to inspect the alarm system, intrusion alarms and how they operate.

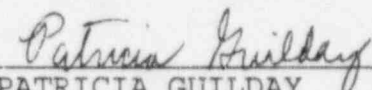
Response: This request relates purely and primarily to the security issue and Georgia Tech is not required to permit a GANE representative and its security consultant access to the Georgia Tech facility.

Respectfully submitted,

MICHAEL J. BOWERS  
Attorney General

174567

  
DENNIS R. DUNN 234098  
Senior Assistant Attorney General

  
PATRICIA GUILDAY 315113  
Assistant Attorney General

PLEASE ADDRESS ALL  
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40 Capitol Square, S.W.  
Atlanta, Georgia 30334-1300

STATE OF GEORGIA  
COUNTY OF FULTON

VERIFICATION

Personally appeared before the undersigned attesting officer R.A. KARAM, who, after being first duly sworn, deposes and states on oath that the facts set forth in the within and foregoing are true and correct to the best of his knowledge and belief.

R.A. Karam

R.A. Karam  
Director  
Neely Nuclear Research Center  
Georgia Institute of Technology

Sworn to and subscribed  
before me this 30th day  
of November, 1995.

Debra Anne McGeorge  
NOTARY PUBLIC

My commission expires:  
Notary Public, Fulton County, Georgia  
My Commission Expires August 21, 1999



ATTACHMENT I  
(Interrogatory no. 13.)

GEORGIA INSTITUTE OF TECHNOLOGY -- RADIOISOTOPE SOURCE INVENTORY						18 October, 1995		
ISOTOPE	HL (DAYS)	ASSAY DATE	PHYS FORM	CHEM FORMULA	TOTAL ACT. mCi	AMOUNT USED mCi	AMOUNT LEFT mCi	ACT. TODAY mCi
=====	=====	=====	=====	=====	=====	=====	=====	=====
AM-241	167284	05/30/80	LIQUID	SA = 0.001/ml	0.095		0.095	9.28E-02
AM-241	167284	12/22/66	SEALED	Density Gauge	100		100	9.57E+01
AM-241	167284	11/01/71	SEALED	NA	100		100	9.64E+01
AM-241	167284	02/16/82	SEALED	N/A	0.000067		0.000067	6.56E-05
AM-241	167285	05/03/73	SEALED	N/A	10		10	9.67E+00
Am-241	167170	07/31/73	SEALED	* LEAKING SOURCE *	0.0001		0.0001	9.67E-05
Am-241	157936	03/15/94	SEALED	STD # 446-52-1A	0.001365		0.001365	1.36E-03
Am-241	157936	03/15/94	SEALED	STD # 446-52-2A	0.001399		0.001399	1.40E-03
Ba-133	2628	10/01/80	LIQUID	HCL	0.1		0.1	2.34E-02
Ba-133	2630	09/01/88	SEALED	N/A	0.001		0.001	5.03E-04
Ba-133	3832.5	11/15/93	SEALED	STD # 167-C16	0.001		0.001	8.80E-04
Ba-133	3832.5	11/15/93	SEALED	STD # 149-C17	0.001		0.001	8.80E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
Bi-207	11000	07/30/73		N/A	0.001		0.001	6.00E-04
C-14	2091450	02/21/79	LIQUID	SODIUM CARB.	0.2		0.2	2.00E-01
C-14	2098400	02/28/79	LIQUID	SA = 0.00001/ml	0.00071		0.00071	7.09E-04
C-14	2091450	08/04/88	LIQUID STD	N/A	0.00006		0.00006	5.99E-05
C-14	2091450	08/01/95	SOLID		0.00001017		0.00001017	1.02E-05
C-14	2090000	08/17/70	SEALED	N/A	0.00000343		0.00000343	3.42E-06
C-14	2090000	09/17/70		N/A	0.00000342		0.00000342	3.41E-06
C-14	2090000	08/04/81		N/A	0.000161		0.000161	1.61E-04
Cd-109	453	09/01/88	SEALED	N/A	0.001		0.001	1.85E-05
Cd-109	464	11/15/93	SEALED	STD # 169-C58	0.001		0.001	3.47E-04
Cd-109	464	11/15/93	SEALED	STD # 151-C4	0.001		0.001	3.47E-04
CF-252	968	10/04/82	SEALED	N/A	1.07		1.07	3.52E-02
CF-252	968	12/15/82	SEALED	N/A	5.36		5.36	1.86E-01
CF-252	968	12/15/82	SEALED	N/A	5.36		5.36	1.86E-01
Cf-252	963.2	08/25/95	SEALED	CF(2)O(3)	100		100	9.57E+01
CF-252	968	10/04/82	SEALED	N/A	1.07		1.07	3.52E-02

GEORGIA INSTITUTE OF TECHNOLOGY -- RADIOISOTOPE SOURCE INVENTORY					18 October, 1995			
ISOTOPE	HL (DAYS)	ASSAY DATE	PHYS FORM	CHEM FORMULA	TOTAL ACT. mCi	AMOUNT USED mCi	AMOUNT LEFT mCi	ACT. TODAY mCi
=====	=====	=====	=====	=====	=====	=====	=====	=====
CF-252	968	12/15/82	SEALED	N/A	5.36		5.36	1.86E-01
CF-252	968	12/15/82	SEALED	N/A	5.36		5.36	1.86E-01
CI-36	308000	01/30/70		N/A	0.000044		0.000044	4.31E-05
CI-36	308000	01/23/70		N/A	0.0000282		0.0000282	2.76E-05
CI-36	308000	11/30/80		N/A	0.0000233		0.0000233	2.30E-05
Co-57	270	09/01/88	SEALED	N/A	0.001		0.001	1.23E-06
Co-57	271	11/15/93	SEALED	STD # 165-C16	0.001		0.001	1.63E-04
Co-57	271	11/15/93	SEALED	STD # 161-C8	0.001		0.001	1.63E-04
CO-60	1921	06/26/54	SEALED	N/A	5200		5200	2.24E+01
CO-60	1921	08/15/55	SEALED	Calibrator	7000		7000	3.51E+01
CO-60	1921	06/28/63	SEALED	N/A	11800		11800	1.67E+02
CO-60	1921	12/09/75	SEALED SAND		0.057		0.057	4.15E-03
CO-60	1898	01/17/51	SEALED	N/A	5500		5500	1.40E+01
CO-60	1898	10/10/72	SEALED	N/A	1614660		1614660	7.48E+04
Co-60	1921	06/28/73	SEALED	N/A	99450000		99450000	5.25E+06
Co-60	1921	02/01/82	SEALED	N/A	73500000		73500000	1.20E+07
Co-60	1921	07/11/86	SEALED	N/A	356937000		356937000	1.05E+08
Co-60	1921	07/15/86	SEALED	N/A	292977000		292977000	8.63E+07
Co-60	1910	07/30/73		N/A	0.001		0.001	5.25E-05
Co-60	1910	07/30/73		N/A	0.001		0.001	5.25E-05
Co-60	1910	07/30/73		N/A	0.001		0.001	5.25E-05
Co-60	1910	07/30/73		N/A	0.001		0.001	5.25E-05
Co-60	1910	03/30/82		N/A	0.001		0.001	1.66E-04
Co-60	1921	09/01/88	SEALED	N/A	0.001		0.001	3.90E-04
Co-60	1924	11/15/93	SEALED	STD # 169-C28	0.001		0.001	7.75E-04
Co-60	1924	11/15/93	SEALED	STD # 159-C21	0.001		0.001	7.75E-04
CO-60	1921	12/09/75	SEALED	(WAND)	0.057		0.057	4.15E-03
CS-137	10950	11/04/65	SEALED	N/A	1000		1000	5.00E+02
CS-137	10950	11/01/72	SEALED	N/A	250		250	1.47E+02
CS-137	10957	09/26/88	SEALED	N/A	0.00114		0.00114	9.68E-04
CS-137	10950	05/11/88	SOLID	CSCL	0.174		0.174	1.46E-01
Cs-137	10900	06/01/88		N/A	0.00002		0.00002	1.68E-05
Cs-137	10900	06/01/88		N/A	0.00002		0.00002	1.68E-05
Cs-137	10900	06/01/88		N/A	0.00002		0.00002	1.68E-05
Cs-137	10900	06/01/88		N/A	0.00002		0.00002	1.68E-05
Cs-137	10900	06/01/88		N/A	0.00002		0.00002	1.68E-05

GEORGIA INSTITUTE OF TECHNOLOGY -- RADIOISOTOPE SOURCE INVENTORY						18 October, 1995		
ISOTOPE	HL (DAYS)	ASSAY DATE	PHYS FORM	CHEM FORMULA	TOTAL ACT. mCi	AMOUNT USED mCi	AMOUNT LEFT mCi	ACT. TODAY mCi
=====	=====	=====	=====	=====	=====	=====	=====	=====
Cs-137	10900	06/01/88		N/A	0.00002		0.00002	1.68E-05
Cs-137	10900	07/30/73		N/A	0.001		0.001	5.97E-04
Cs-137	10900	09/30/72		N/A	0.00113		0.00113	6.61E-04
Cs-137	10950	07/31/73	SEALED	NEN SK-1 Source Kit	0.001		0.001	5.98E-04
Cs-137	11023	11/15/93	SEALED	STD # 163-C3	0.001		0.001	9.56E-04
Cs-137	11023	11/15/93	SEALED	STD # 159-C17	0.001		0.001	9.56E-04
CS-137	10957	09/26/88	SEALED	N/A	0.00114		0.00114	9.68E-04
CS-137	10950	05/11/88	SOLID	CSCl	0.174		0.174	1.46E-01
FE-55	978	02/08/90		N/A	0.1		0.1	2.28E-02
FUEL	NA	3/31/84	Fuel elements; 4656 gm initial ---- 4549 gm as of 4/6/93 (10mCi)					#VALUE!
H-3	4500	07/17/87	SEALED	N/A	0.2		0.2	1.26E-01
H-3	4500	05/31/72		Neutron Generator	4000		4000	1.07E+03
H-3	4500	07/31/75	LIQUID	SA = 0.04/ml	39	5.46	33.54	1.07E+01
H-3	4500	07/09/79	LIQUID	SA = 0.00383/ml	0.345		0.345	1.38E-01
H-3	4500	04/28/87	LIQUID	400 ml	100	8.5	91.5	5.68E+01
H-3	4489	03/01/88	LIQUID water/500 ml Batch88		0.054		0.054	3.51E-02
H-3	4500	09/11/90	LIQUID	N/A	500		500	3.75E+02
H-3	4500	09/11/90	LIQUID	N/A	250		250	1.87E+02
H-3	4490	07/26/88	LIQUID STD	N/A	0.000114		0.000114	7.58E-05
H-3	4490	01/23/90	GAS	Methane Gas	0.2244		0.2244	1.62E-01
H-3	4490	10/19/94	LIQUID	TAXOL (Ethanol)	0.04		0.04	3.78E-02
H-3	4490	10/19/94	LIQUID	Tetra-Cocane (Hexane)	0.04		0.04	3.78E-02
MFP/U	NA	06/15/88		N/A	0.1		0.1	#VALUE!
MFP/U	NA	06/15/88		N/A	0.1		0.1	#VALUE!
MIXED	NA	07/05/88	SOLID	N/A	< 1		< 1	#VALUE!
MIXED	NA	07/05/88	SOLID	N/A	< 1		< 1	#VALUE!
MIXED	NA	07/05/88	SOLID	N/A	< 1		< 1	#VALUE!
MIXED		04/01/91	SEALED	N/A	0.001471		0.001471	#DIV/0!
MIXED	N/A	10/01/94	SEALED	N/A	0.001947			#VALUE!
MIXED	N/A	10/01/94	SEALED	N/A	0.001898			#VALUE!
MIXED	N/A	10/01/94	SEALED	N/A	0.00213			#VALUE!
MIXED	N/A	10/01/94	SEALED	N/A	0.002068			#VALUE!
Mixed	NA	01/01/60	SEALED	Std #1132	0.00001149		0.00001149	#VALUE!
Mixed	NA	01/01/60	SEALED	Std #1128	0.0000148		0.0000148	#VALUE!
Mixed	N/A	11/15/93	SEALED	STD # 169-C26	0.001		0.001	#VALUE!
Mixed	N/A	11/15/93	SEALED	STD # 159-C18	0.001		0.001	#VALUE!



GEORGIA INSTITUTE OF TECHNOLOGY -- RADIOISOTOPE SOURCE INVENTORY						18 October, 1995		
ISOTOPE	HL (DAYS)	ASSAY DATE	PHYS FORM	CHEM FORMULA	TOTAL ACT. mCi	AMOUNT USED mCi	AMOUNT LEFT mCi	ACT. TODAY mCi
MIXED	N/A	10/01/94	SEALED	N/A	0.001947			#VALUE!
MIXED	N/A	10/01/94	SEALED	N/A	0.001898			#VALUE!
MIXED	N/A	10/01/94	SEALED	N/A	0.00213			#VALUE!
MIXED	N/A	10/01/94	SEALED	N/A	0.002068			#VALUE!
Mn-54	303	09/01/88	SEALED	N/A	0.001		0.001	2.56E-06
Mn-54	313	11/15/93	SEALED	STD # 169-C14	0.001		0.001	2.08E-04
Mn-54	313	11/15/93	SEALED	STD # 155-C7	0.001		0.001	2.08E-04
Na-22	950	07/30/73		N/A	0.001		0.001	2.67E-06
Na-22	950	07/30/73		N/A	0.001		0.001	2.67E-06
Na-22	250	09/01/88	SEALED	N/A	0.001		0.001	7.22E-07
Na-22	949	11/15/93	SEALED	STD # 165-C15	0.001		0.001	5.96E-04
Na-22	949	11/15/93	SEALED	STD # 155-C8	0.001		0.001	5.96E-04
NI-63	33580	11/15/88		N/A	15		15	1.42E+01
NI-63	33580	11/15/88		N/A	5		5	4.75E+00
NP-237	7800000000	02/26/65	SEALED	N/A	0.353		0.353	3.53E-01
Pb-205	10950000000	12/27/67	SOLID	N/A	0.1		0.1	1.00E-01
Pb-205	10950000000	12/27/67	SOLID	N/A	0.00006		0.00006	6.00E-05
Pb-210	7400	08/06/70		N/A	0.000051		0.000051	2.15E-05
Pm-147	950	09/21/81		N/A	0.000113		0.000113	2.65E-06
Po-210	138.376	05/15/92	SOLID/SEALED		0.0000189		0.0000189	3.48E-08
Po-210	138.38	12/15/92	SEALED SOLID		0.0000152		0.0000152	8.18E-08
Po-210	138	UNKNOWN	SEALED	NEN SK-1 Source Kit	0.1		0.1	#VALUE!
PU-239	8902350	01/25/71	LIQUID	N/A	0.00114		0.00114	1.14E-03
PU-239	8902350	09/28/62	SEALED	N/A	5000		5000	5.00E+03
PU-239	8916800	02/26/65	SEALED	5 gm	306.85		306.85	3.07E+02
PU-239	8800000	04/23/64	SEALED	7.54 gm	462.2		462.2	4.62E+02
Pu-239	8800000	03/15/94	SEALED	Bonded Oxide	0.0001054		0.0001054	1.05E-04
RA D+E	NA	04/01/63		N/A	0.00003		0.00003	#VALUE!
Ra-226	584730	08/01/77		N/A	10		10	9.92E+00
RA-226	591300	10/05/60	SEALED	Calibration Source	1		1	9.85E-01
RA-226	585131	11/05/71	SOLID	Inside Gauge	0.02		0.02	1.98E-02
RA-226	591300	04/01/70	LIQUID	N/A	0.0093		0.0093	9.20E-03
RA-226	264330	09/18/89	POWDER	N/A	0.064		0.064	6.36E-02
RA-226	591300	10/05/60	SEALED	Calibration Source	1		1	9.85E-01
Ra-228	2098.75	09/05/65	LIQUID	N/A	0.1		0.1	2.64E-03
SB/BE	NA	10/01/64	SEALED	NA	50000		50000	#VALUE!

GEORGIA INSTITUTE OF TECHNOLOGY -- RADIOISOTOPE SOURCE INVENTORY						18 October, 1995		
ISOTOPE	HL (DAYS)	ASSAY DATE	PHYS FORM	CHEM FORMULA	TOTAL ACT. mCi	AMOUNT USED mCi	AMOUNT LEFT mCi	ACT. TODAY mCi
SR-90	10111	05/21/69	LIQUID	SA = 0.0001/ml	0.001		0.001	5.16E-04
SR-90	10111	02/28/74	LIQUID	SA = 0.0001/ml	0.00124		0.00124	7.21E-04
SR-90	8800000	02/01/74	LIQUID	N/A	0.03		0.03	3.00E-02
Sr-90	10402.5	05/15/92	SOLID/SEALED		0.0000135		0.0000135	1.24E-05
Sr-90	10100	07/29/70		N/A	0.0000045		0.0000045	2.39E-06
Sr-90	10100	06/23/88		N/A	0.0000076		0.0000076	6.32E-06
Sr-90	10100	07/08/81		N/A	0.0000207		0.0000207	1.45E-05
Sr-90	10950	07/29/70	SEALED	NEN SK-1 Source Kit	0.000004144		0.000004144	2.31E-06
Sr-90	10402.5	05/15/92	SOLID/SEALED		0.0000135		0.0000135	1.24E-05
TC-99	77400000	10/10/88	SEALED	N/A	0.00000558		0.00000558	5.58E-06
Tc-99	2200	06/24/81		N/A	0.000041		0.000041	7.88E-06
TC-99	77400000	10/10/88	SEALED	N/A	0.00000558		0.00000558	5.58E-06
TH-230	2900000	10/11/88	SEALED	N/A	0.00000494		#VALUE!	#VALUE!
TH-230	29200000	7/13/94	SEALED	N/A	0.0000133		0.0000133	1.33E-05
TH-230	2900000	10/11/88	SEALED	N/A	0.00000494		#VALUE!	#VALUE!
TH-230	29200000	7/13/94	SEALED	N/A	0.0000133		0.0000133	1.33E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	07/30/73		N/A	0.001		0.001	1.74E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	02/28/75		N/A	0.001		0.001	2.33E-05
Ti-204	1390	07/31/73	SEALED	NEN SK-1 Source Kit	0.001		0.001	1.74E-05
U-235	NA	04/13/62	Fission Counter,	1.66 gm				#VALUE!
U-235	NA	09/15/71	Fission Counter,	1.49 gm				#VALUE!

GEORGIA INSTITUTE OF TECHNOLOGY -- RADIOISOTOPE SOURCE INVENTORY						18 October, 1995		
ISOTOPE	HL (DAYS)	ASSAY DATE	PHYS FORM	CHEM FORMULA	TOTAL ACT. mCi	AMOUNT USED mCi	AMOUNT LEFT mCi	ACT. TODAY mCi
=====	=====	=====	=====	=====	=====	=====	=====	=====
U-235	NA	03/26/70	Fission Counter;	5.0 mg				#VALUE!
U-235	NA	04/27/70	Fission Counter;	5.0 mg				#VALUE!
U-235	NA	02/18/65	Fission Foil Chamber-	75 mg #118883 G.T.				#VALUE!
U-235	NA	07/08/67	s/n Counter;	0.075 gm				#VALUE!
U-235	2.5696E+11	10/23/63	17 envelopes @	5 gm each				ERR
U-DEPL	1.6473E+12	06/08/88	SOLID	METAL	200		200	2.00E+02
U-NAT	5.11E+12	07/05/88	SOLID	URANYL ACE.	7 oz		7 oz	#VALUE!
Zn-65	245	09/01/88	SEALED	N/A	0.001		0.001	6.23E-07



ATTACHMENT II  
(Interrogatory no. 19.)

REVISED:03/02/95

NUCLEAR SAFEGUARDS COMMITTEE MEMBERS

<u>NAME</u>		<u>ADDRESS</u>	<u>MAIL CODE</u>	<u>PHONE NUMBERS</u>
Em Cobb, Chairman	(2)	Georgia Power Company P.O. Box 1295 Birmingham, AL 35201		(205) 868-5161 FAX #(205) 868-5124
Dr. P.V. Desai	(1)	Mechanical Engineering	0405	894-3244, 4-2775
Dr. Bernd Kahn	(2)	Mechnical Engineering	0405	894-3776 Fax# 853-0232
Dr. T.G. Tornabene	(3)	Biology	0230	853-0322
Mr. Jackie Vickery	(1)	Police Department	0440	894-4588
Dr. B.R. Livesay	(3)	PSD/EML Baker	0800	894-3489 Home# 664-8742
Dr. Peggy Girard	(2)	Biology	0230	894-3375
Dr. S.M. Ghiaasiaan	(3)	Mechanical Engineering	0405	894-3746
Dr. Robert Braga	(3)	Chemistry	0400	894-3031
Mr. Len T. Gucwa	(1)	Westinghouse 2825 Cobb International Blvd. Kennesaw, GA 30144		429-4680
Mr. Steven C. Ewald	(2)	Georgia Power Company P.O. Box 4545 Atlanta, GA 30302		526-7710
Mr. James O'Hara	(2)	3393-P Peachtree Corners Circle Norcross, GA 30092		449-8067

ATTACHMENT III  
(Interrogatory no. 24.)



# Georgia Institute of Technology

NEELY NUCLEAR RESEARCH CENTER

800 ATLANTIC DRIVE

ATLANTA, GEORGIA 30332-0425

USA

(404) 894-3600

April 24, 1995

Mr. Thomas Hill, Manager  
Radioactive Materials Program  
Environmental Protection Division  
Department of Natural Resources  
4244 International Parkway, Suite 114  
Atlanta, GA 30354

Dear Mr. Hill:

This is to advise you that on March 23, 1995 an alarm at the Neely Nuclear Research Center (NNRC) was actuated at NNRC and also at the Georgia tech Police Department. The Georgia tech Police notified me of this alarm at 2:30 A.M. I responded to the alarm and arrived at NNRC at 3:04 A.M. I found the water level at the pool to be about 18 inches below normal. Inspection revealed that three different valves which should have been closed were open. These open valves were responsible for back drainage from the pool to the suspect waste tank. Total amount of water drained from the pool was about ~1200 gallons. Total amount of water collected in the suspect waste tank was about 1200 gallons.

The pool is 6 feet wide x 20 feet deep and 20 feet long. It is used to store 223,000 Ci Co<sup>60</sup>. It is also used to store spent fuel from the reactor. (Spent fuel has not been stored in the pool for more than 15 years.)

The pool water is circulated, from time to time, through a resin bed to keep the water clean and free from algae growth. During circulation, water is drawn from the bottom of the pool through a pipe by a pump. This pipe has a hole in it 3-4 inches below the surface of the water. If the water level in the pool drops below the hole in the pipe, the pump will cavitate and the circulation of the water will cease. It is not possible to pump the pool to levels below the location of the hole in the pipe.

Return water to the pool during circulation is through another pipe located three feet below the top of the pool. It is possible that back flow through this pipe would take place if certain valves are left open. On March 23, 1995 three valves were left open after circulation was stopped. This allowed water to back flow. The water level cannot possibly drop below 3 feet unless there is a crack in the pool bottom.

A water level sensor is located at the top of the pool. This sensor actuates an alarm at NNRC and also at the GT police when the level drops 6 inches. This sensor has always been positioned to actuate when the level drops six inches, not six feet.

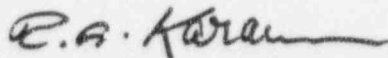
Mr. Thomas Hill, Manager  
Radioactive Materials Program  
April 24, 1995  
Page 2

The water that back flowed from the pool was collected almost in its entirety in the suspect-waste tank. There was a very small leak around the connection to the resin bed. The amount which leaked by this route was very small. This water goes to sump and is eventually pumped in the suspect-waste tank. No water at NNRC flows from any sink directly into the sewer system. All liquid effluents are collected in the suspect-waste tank. All liquids are analyzed for radioactive content before any discharge.

The pool water is clean and contains no radioactivity above detection limits.

Should you have any questions, please let me know.

Sincerely,



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

RAK/ccg



# Georgia Institute of Technology

NEELY NUCLEAR RESEARCH CENTER

900 ATLANTIC DRIVE

ATLANTA, GEORGIA 30332-0425

USA

(404) 894-3600

March 23, 1995

## MEMORANDUM

TO: File

FROM: R. A. Karam *RAK*

SUBJECT: Alarm at NNRC

At 2:30 A.M., I recieved a call at home from the GT Police that the criticality alarm was actuated. I arrived at NNRC at 3:04 A.M., stopped at Emergency Command Center, got one Geirger counter and one Dose Rate Meter. Also obtained one pocket ionization chamber for myself, my wife, and for GT Police officer. The Emergency Panel in EMC indicated that the pool level was low. Proceeded to investigate. The pool level was low abut 18 inches. Investigated further and found two valves to the resin bed open and water was leaking slightly at the hose connection to the bed. Called Dixon Parker and Jerry Taylor. Mr. Parker inspected other valves and found the following: valves 303B, 312A and 333 were open. Closed valves. Started adding water. Alarm was reset. Time was 4:00 A.M.

Thanked GT Police for their help. Read PICs. No one received any dose.



**GEORGIA TECH POLICE DEPARTMENT**  
**GA0601000**  
**Incident Report**

LOCATION OF OCCURRENCE / ADDRESS				CASE NO.	
NEELY NUCLEAR RESEARCH CENTER / 900 ATLANTIC DR /				950831	
DATE AND TIME FROM				RELATNO NO.	
MAR 23 95 02:26				95-03-23-12249	
DATE AND TIME TO		DATE AND TIME REPORTED		CLASSIFICATION	
MAR 23 95 02:26		MAR 23 95 03:39		REACTOR	
ASSIGNED BY		CRIME DESCRIPTION		LOSS	
TAYLOR		Criticality/intrusion alarm at reactor		\$ 0	
EVIDENCE		ALCOHOL		RECOVERY	
<input type="checkbox"/> TRAFFIC		<input type="checkbox"/> ARREST		\$ 0	
<input type="checkbox"/> GANG		<input type="checkbox"/> DOM. VIOLENCE		CASE STATUS	
<input type="checkbox"/> WEAPON		COPIES TO		EX CLEARED	
		<input type="checkbox"/> President's Ofc		APPROVED	
		<input type="checkbox"/> Student Affairs		YES	
		<input type="checkbox"/> Plant Operations		FURTHER ACTION	
		<input checked="" type="checkbox"/> Risk Management		<input type="checkbox"/> YES	
		<input checked="" type="checkbox"/> L. Pollock		<input checked="" type="checkbox"/> NO	
BY	NAME - LAST, FIRST, MIDDLE	RACE	SEX	AGE	DOB
V	GA TECH REACTOR				
SSOL SECURITY NO.	DRIVERS LIC. NO.	RESIDENCE ADDRESS, ZIP CODE			RESIDENCE PHONE
		900 Atlantic Drive ATLANTA, GA. 30332			
ALIAS	TYPE	BUSINESS ADDRESS (SCHOOL & JUVENILE)			BUSINESS PHONE
VEHICLE DESCRIPTION					

Officer Pestle and myself responded to an alarm at the Reactor. Upon our arrival, we noticed a flashing red light at the front door. We notified dispatch and asked him to make contact with someone in charge of the building. Mr. Karam was advised of the situation and he came to check the problem. Upon his arrival at 0311, he discovered the alarm was activated due to a drop in the water level.

Approving officer: Lt. Bellville, John P., #6

FAX TRANSMITTAL		Date 3/23/95	# of pages 1
To: J. Karam	From: Chief Jack Vickery		
Co/Dept. NRC	Georgia Tech Police		
Phone # 2-9325	Phone # (404) 894-4588		
Contributor: officers were	Fax # (404) 853-9327		
Vital Smith & Melissa Pestle			

REPORTING OFFICER / ID NO.	DATE AND TIME	REVIEWED BY	DATE AND TIME
SMITH 30	MAR 23 95 03:39	UB	



ATTACHMENT IV  
(Interrogatory no. 26)



# Georgia Institute of Technology

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

(404) 894-3600

February 15, 1988

## MEMORANDUM

TO: Dr. John Patrick Crecine, President

FROM: R. A. Karam, <sup>RAK</sup> Neely Nuclear Research Center

SUBJECT: Performance of Mr. Steve Millspaugh and Mr. Paul Sharpe

Elements which contributed to the dismissal of Mr. Millspaugh and Mr. Sharpe are as following:

1. Mr. Millspaugh was habitually late coming to work, often as late as 11:00 A.M. His normal entry was through the back gate. Our policy and practice is that a work day started at 8:00 A.M. and ended at 5:00 P.M., with an hour for lunch and two short breaks mornings and afternoon.
2. Mr. Millspaugh often used obscene vulgarity to graduate students and staff.
3. NRC assessment was that our health physics program is inadequate and based on technology that is 25 years old.
4. Mr. Millspaugh was argumentative, uncooperative and insensitive to the needs of others.
5. Mr. Sharpe registered for two courses in management without permission.
6. Mr. Sharpe comes in and out of the NNRC without informing secretaries despite the existence of a policy requiring everyone to do so.

7. Both health physics technicians, Mr. Millspaugh and Mr. Sharpe, often kept infractions of rules and regulations in private logs. These infractions were not brought to the attention of Georgia Tech Officials. This is contrary to Georgia Tech's written policy and a possible violation of the responsibilities of radiation workers described in the Code of Federal Regulations 10 CFR 19.12. This failure to carry out the responsibilities of their position is considered dereliction of duty.
8. Both technicians refused to accept the authority of the President of Georgia Tech over matters relating to policy and organization. They answered to no one.
9. Both technicians discharged their duties in an unprofessional and highly irritating manner.
10. Dr. Michael O'Bannon, a management psychologist at Georgia Tech recommended that health physics function for the operation group be performed by new health physics individuals. He stated further that physical separation between the health physics group and the operation group is a good idea.

February 16, 1988

This letter concerns the unprofessional activities of the health physics staff at Georgia Tech Neely Nuclear Research Center.

First of all let me <sup>g</sup>clearify that the main player in the information that follows centers mainly around the conduct of Steve Millspaugh with minor details of other health physics activity. My first encounter with the attitude they project occurred soon after I was hired and told to work with the health physics staff. Steve Millspaugh and the rest of the staff seemed to think that they were better than everyone else and Steve in particular often expressed ill feelings about much of the reactors personnel including Theragenics. On one such occasion, Theragenics was trying to accomplish some instrument calibrations and Steve was noted as saying that they were "Fuck-ups" and would probably not calibrate the instruments correctly. It was also added that he wouldn't help them because one person was making more money than he was worth. When asked for assistance in the barn, both he and Paul Sharpe were "Busy" yet they both remained in the health physics office not doing anything of importance.

Being new to the facility I paid no attention to their occasionally loose remarks and did not realize their actual disrespect of the upper level management until the day the editorial appeared in the Technique during fall quarter. At this time most everyone was exuberant about the article Susan Selman had written. Everyone was saying how they had put the screws to Dr. Karam when Susan revealed the cadmium spill in the containment building. Having served at a similar operation at Texas A & M, I was interested in knowing what had happened. I was informed by the health physics group that the cadmium had gotten loose in the form of fine powder which they told me the best I can recall was no more than 100 mR/hr (not sure of actual number quoted but I am positive that it was less than 100 mR). When I inquired why all the fuss (since the research team I worked with at Texas A & M had similar incidents if not worse). Susan made it appear that Dr. Karam had no respect for safety. However, she did show he had proper judgment when she described a Cs-137 low activity sample that spilled in the hall of the uncontrolled access area that she said Dr. Karam reprimanded her for. Dr. Karam's position was to see to the welfare of the public and since the containment has an airlock clean it up and report to proper hierarchy. Whereas the health physics could not see the harm of the Cs-137. Anyone could have walked through that mess and gotten contaminated; even the general public.

Shortly thereafter I spent less time with the health



physics staff on my own accord, since their conduct and views provided an adverse work environment mentally. I felt I was more of a team when working for Dave Cox or Jerry Taylor. I also was told that the health physics staff, in particular Steve Millspaugh, referred to me as the "Company Spy" which I thought was cute but only reinforced my view of their unprofessional attitude and paranoid ideas.

When I returned from Christmas break Dr. Karam had provided two other graduate students and I an office at the reactor site. Desks had to be moved and one desk in particular had to be surveyed since it was in the control zone of the facility. Knowing enough about safety I knew the desk would have to be surveyed. When I entered the health physics office to obtain a G. M. counter I was greeted by profane name calling of not only myself but also Hwang Moon and Rajendra Nahrain. I paid no attention to this at first but when I returned with an order from Dr. Karam to have Steve take some smears and count them Steve exploded and stated verbatim "If Dr. Karam wants fucking smears taken he can come in here and do them himself". I then had to figure out how to use the equipment and do the smears myself while Steve sat at his desk.

Soon after everything seemed out of place. How can staff members call the press and NRC about what they term a safety related incident when they themselves care so little about safety. This quarter that they were only concerned about safety

when it fit their plans and their main plan was to have Dr. Karam removed as director.

It wasn't until the news informed me that Steve and Paul were seeking a lawyers advice on a suit for illegal dismissal that I confronted Dr. Karam with the facts, until February 12, 1988 only Dave Cox and a few of my graduate associates knew of these or any other grievances I had with the health physics staff.

Sincerely  
*James M. Matton*  
JAMES M. MATTON

ATTACHMENT V  
(Request to Produce no. 34.)

- o Stronger coupling between NNRC and academic units should be vigorously pursued, especially NE/HP programs.

#### **D. MISSION STATEMENT**

To contribute to the fulfillment of the scientific and technical nuclear needs of the State of Georgia and the country through:

- o the education of those who will pioneer the advancement of knowledge in the nuclear field and be future leaders;
- o the conduct of research of both a basic and applied nature in nuclear engineering and health physics;
- o service to the profession, to the State of Georgia, to the country, and to the further development of nuclear applications for the benefit of mankind and the environment. Successful accomplishment of this mission will be necessary to insure the president's vision of Georgia Tech as: The Technological University of the 21st Century.

#### **E. VISION**

- o NNRC, through the BNCT program, will be the center where terminally sick people from all over the world will come for treatment and restoration to health and vigor. It is a simple goal with immense potential for impact on the lives of people.
- o NNRC will be the center where NE/HP students and faculty will perform much if not all of their graduate research.
- o NNRC's director is playing a major role in bringing many contracts (worth more than \$3.3 million) to Georgia Tech and the Education, Research and Development Association of Georgia Universities (ERDA).

#### **F. OBJECTIVES, STRATEGIES AND ACTION STEPS**

Objective #1: Design, construct and install the BNCT filter.

Strategy: Establish agreements with Neutron Technology and INEL on or before March 31, 1994, so that financing for the neutron beam optimization through the installation of the filter may begin.

ATTACHMENT VI  
(Request to Produce no. 35)

Georgia Institute of Technology  
 Schedule of Nuclear Reactor Center Expenditures  
 Covering the Fiscal Years 1985 through 1995

Year	State Funds	Sponsored Funds	Total	Personal Services	Travel	Operating Supplies & Expenses	Equipment
1985	450,948.77	33,756.17	484,704.94	363,137.27	3,551.96	85,809.82	32,205.89
1986	542,156.78	58,712.01	600,868.79	460,049.50	3,053.84	111,803.99	25,961.46
1987	180,430.58	336,859.35	517,289.91	448,650.77	2,815.44	54,684.38	11,139.32
1988	330,882.28	271,266.41	602,148.69	483,762.17	485.11	115,299.95	2,621.46
1989	435,967.09	193,126.69	629,093.78	568,547.75	2,534.89	53,366.74	4,644.40
1990	399,285.09	233,979.34	633,264.43	555,682.62	1,163.26	68,500.60	7,917.95
1991	538,180.51	137,070.52	675,251.03	557,647.16	1,881.81	112,705.06	3,017.00
1992	449,789.82	131,792.45	581,582.27	497,741.53	5,247.43	48,491.46	30,101.75
1993	448,014.25	206,348.72	654,362.97	567,224.90	4,645.86	61,282.14	21,210.07
1994	505,369.21	135,107.45	640,476.66	531,191.15	1,898.98	64,105.45	43,281.08
1995	494,699.59	176,928.04	671,627.63	561,745.10	1,495.31	65,406.74	42,980.48

ANSWER TO REQUEST TO PRODUCE NO. 35.



DOCKETED  
USNRC

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

'95 DEC -4 P2:56

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

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

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

In the Matter of )

GEORGIA INSTITUTE )  
OF TECHNOLOGY )

Atlanta, Georgia )

Georgia Tech Research )  
Reactor )

Renewal of License No. R-97 )

Docket No. 50-160-Ren  
ASLBP NO. 95-704-01-Ren

GEORGIA INSTITUTE OF TECHNOLOGY'S  
CERTIFICATE OF SERVICE

I do hereby certify that copies of the foregoing Georgia Institute of Technology's Responses to GANE's Discovery 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  
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Atomic Safety And Licensing  
Board  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

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Adjudicatory File (2)  
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This 1st day of December, 1995.

Administrative Judge  
Charles Bechhoefer, Chairman  
Atomic Safety and Licensing  
Board  
U.S. Nuclear Regulatory  
Commission  
Washington, D.C. 20555

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