



Georgia Institute of Technology

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

(404) 894-3600

May 26, 1987

Mr. Douglas M. Collins, Chief
Emergency Preparedness and Radiological
Protection Branch
Division of Radiation Safety and Safeguards
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W.
Atlanta, Georgia 30323

Dear Mr. Collins:

Subject: Inspection Report No. 50-160/87-04

This letter is our response to the referenced inspection conducted by Mr. W.M. Sartor on April 22-23, 1987.

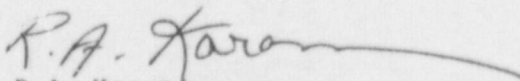
The deviation cited in the inspection report relates to devising a procedure describing notification methods including: the title of the person responsible, the agencies which must be notified for each class of emergency, the time period during which notification must take place, and the information to be provided.

The attached draft for the procedure in question will be submitted to the Nuclear Safeguards Committee for approval at the next meeting (approximately July 9, 1987).

Other improvements suggested by Mr. Sartor have been earmarked for inclusion in our Emergency Plan and Procedures (see appended punchlist for June 1-5, 1987).

We thank you for your help and suggestions and we hope that you will find our response satisfactory. If you have any questions, please let me know.

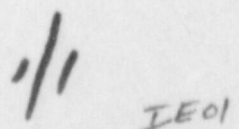
Sincerely yours,


R.A. Karam
Director

RAK:jlr

Enclosures: As stated

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PDR ADDCK 05000160
Q PDR



I. Purpose

To delineate the steps to be taken and the appropriate organizations to be notified for each emergency type

II. General Considerations

Emergency notification rosters are posted throughout the facility. Telephone numbers are listed for NNRC personnel, Georgia Tech support agencies, & off-site support agencies for local, state, & federal assistance. Initial & follow-up emergency messages to the NRC &, if applicable, to other offsite government agencies should, to the extent known, include the following:

1. Name, title, & telephone number of caller, & the location of the incident
2. Description of the emergency event & class
3. Date & time of incident initiation
4. Type of expected or actual release (airborne, water-borne, surface spill) with estimated duration times
5. Quantity of radionuclides released or expected to be released
6. Projected or actual dose rates outside of operations boundary

Generally the Emergency Director is the person who initiates the notification process. Every effort should be made to locate him in case of an emergency. In his absence, an alternate emergency director would assume the responsibility.

III. Operational Event

- I = Immediately
 AA = After assessment has been made
 IN = If needed

Civil disturbances or receipt of bomb threat non-specific to the reactor

1. Georgia Tech Police (GTP) 894-2500 (I)
2. Alert NNRC staff & initiate assessment (I)

Personnel injury with or without radiological complications

1. GTP 894-2500 (I)
2. Ambulance 588-4141 (IN)
3. Hospital 588-4307 (IN)

Minor fire or explosion non-specific to the reactor or its control systems

1. GTP 894-2500 (AA)
2. Fire 659-2121 (IN)

DRAFT

| | | | |
|-----------|-----------------|-------------|-------------------------|
| Chapter | GEORGIA TECH RE | RCH REACTOR | Procedure 6100 |
| 8 | | | Last Rev. 00/00/87 |
| Site | Emerg | | Last Rev. App. 00/00/87 |
| Emergency | Notificat | | Page 2 of 4 |

- Facility or individual contamination
1. Health Physics (HP) 894-3605
 2. See Roster for additional numbers

IV. Unusual Events

I = Immediately

AA = After assessment has been made

Radiological effluents at site boundary exceeding 10 MPC averaged over 24 hours or 15 mrem whole body accumulated in 24 hours

1. GTP 894-2500 (AA)
2. NRC 331-4503 (AA)
3. HP 894-3605 (I)
4. Georgia Dept. of Natural Resources (GDNR) 656-6905 (I)

Receipt of a bomb threat with possible radiological release implications

1. GTP 894-2500 (I)
2. NRC 331-4503 (AA)

Prolonged fire or minor explosion within facility but non-specific to the reactor or its control systems

1. GTP 894-2500 (I)
2. Fire 659-2121 (I)

Failure of an experiment with minor releases of radioactivity as determined by observing the following levels on facility air monitors:

MAP-1 - Stack Particulates - \geq 27 MPC in Ci/sec

Kanne - Stack Gas - 5850 microCi/sec Ar-41 equivalent

* 100:1 dilution factor applied from stack to perimeter fence

1. GTP 894-2500 (AA)
2. NRC 331-4503 (AA)
3. HP 894-3605 (I)

Report of a tornado that could strike the facility & adversely affect reactor safety systems

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (I)
4. GDNR 656-6905 (I)

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|-----------|-------------------------------|-------------------------|
| Chapter | GEORGIA TECH RESEARCH REACTOR | Procedure 6100 |
| 3 | | Last Rev. 00/00/87 |
| Site | Emergency | Last Rev. App. 00/00/87 |
| Emergency | Notification | Page 3 of 4 |

V. Alert

I = Immediately

AA = After assessment has been made

Radiological effluents at the site boundary exceeding 50 MPC when averaged over 24 hrs. or 75 mrem whole body accumulated in 24 hours

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (AA)
4. GDNR 656-6905 (AA)

Radiation levels at site boundary of 20 mrem/hr for 1 hr. whole body or 100 mrem thyroid dose

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (AA)
4. GDNR 656-6905 (AA)

Fire or explosion which might adversely affect the reactor or its safety systems

1. Fire 659-2121 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (AA)
4. GDNR 656-6905 (AA)

Pool Level alarm & visual observation indicating abnormal loss of water at a rate exceeding backup capacity

1. Fire 659-2121 (AA)
2. GTP 894-2500 (I)
3. HP 894-3605 (I)

Severe fuel damage or failure of an experiment resulting in significant releases of radioactivity as determined by observing the following levels on facility air & area radiation monitors:

MAP-1 - Stack Particulates - 27 MPC

Kanne - Stack Gas - 5850 microCi/sec Ar-41 equivalent

Two area radiation monitors in the Reactor Containment Building with readings above 100 mr/hr for 1 hr from an unexplained source

* 100:1 dilution factor applied from stack to perimeter fence

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (I)
4. GDNR 656-6905 (I)
5. GT News Bureau 894-2452 (AA)

VI. Site Area Emergency

I = Immediately

Actual or projected radiological effluent at site boundary exceeding 250 MPC when averaged over 24 hours or 375 mrem whole body or 500 mrem thyroid dose

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (I)
4. GDNR 656-6905 (I)
5. GT News Bureau 894-2452 (I)

Actual or projected radiation levels at the site boundary of 100 mrem/hr for 1 hour whole body or 500 mrem thyroid dose

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (I)
4. GDNR 656-6905 (I)
5. GT News Bureau 894-2452 (I)

Partial or complete fuel meltdown resulting in releases of radioactivity as determined by measuring radiation levels at site boundary using ionization chamber & air sampler

1. HP 894-3605 (I)
2. GTP 894-2500 (I)
3. NRC 331-4503 (I)
4. GDNR 656-6905 (I)
5. GT News Bureau 894-2452 (I)

NNRC PUNCHLIST
June 1, 1987

| Item | Person in Charge | Date Due | Date Comp. |
|--|-----------------------------|----------|------------|
| 1. Physicals for Respirator Use | Daphne Aycock | | |
| a. R. Boyd | | 9/15/87 | |
| b. B. Downs | | 5/26/87 | |
| c. D. McDowell | | 6/1/87 | |
| d. J. Taylor | | 6/15/87 | |
| 2. Devise a Method to Analyze Waste Water | Bob Boyd Paul Sharpe | 8/15/87 | |
| 3. Analysis of Liquid Waste Samples Comparison with Bernd Kahn | Bob Boyd | 6/1/87 | |
| 4. Annual Training in Emergency Procedures | Bob Boyd | 7/15/87 | |
| 5. Required Signs for Radiation Control | Bob Boyd | 7/1/87 | |
| 6. Internal Audit for Health Physics | Bob Boyd | 8/15/87 | |
| 7. Hood Inspections | Bob Boyd | 8/15/87 | |
| 8. Hand and Foot Counter and Procedures | Bob Boyd | 8/1/87 | |
| 9. Source Material Inventory | Bob Boyd | 10/1/87 | |
| 10. Maps and Blueprints | | | |
| a. Approved Changes Incorporated | David Cox | 6/27/87 | |
| 11. Level Alarm of D ₂ O (Evaluation) | David Cox | 6/15/87 | |
| 12. Procedure and Surveillance | | | |
| a. Review and Evaluate all Procedures | Bill Downs | 10/15/87 | |
| b. Rod Calib. & Angle Question | Bill Downs | 10/15/87 | |
| 13. Internal Audit for Reactor Operations | Bill Downs Dean McDowell | 8/15/87 | |
| 14. Devise document control and Distribution System for Emergency Procedure and Plan Including Updating, Dating, and Revision Number | Bill Downs | 8/15/87 | |

| Item | Person in Charge | Date Due | Date Comp. |
|--|-------------------------------|----------|------------|
| 15. Response to NRC Inspections | | | |
| a. Inspection # 50-160/87-01 | R.A. Karam | 5/14/87 | 5/25/87 |
| b. Inspection # 50-160/87-03 | R.A. Karam | 6/26/87 | |
| c. Inspection # 50-160/87-04 | R.A. Karam | 6/14/87 | 5/26/87 |
| 16. Monthly Progress Reports to Savannah River Laboratory | R.A. Karam | Monthly | 5/13/87 |
| 17. Proposal to Emory University and National Cancer Institute | R.A. Karam | 5/31/87 | |
| 18. Proposal to Savannah River Laboratory | R.A. Karam | 10/5/87 | |
| 19. Review of Nuclear Safeguards Committee Minutes for Reporting Facility Design Changes to NRC in Annual Report | R.A. Karam | 1/1/88 | |
| 20. Audit of Hot Cell Operation | . Mahaffey | 6/1/87 | 5/27/87 |
| 21. Compliance with Jim Mahaffey's Report | Dean McDowell Mitch Mercer | 6/15/87 | |
| 22. D ₂ Analyzer and Procedure | Dean McDowell | 8/15/87 | |
| 23. Request to Renew B. Downs License | Dean McDowell | 6/15/87 | |
| 24. Special Nuclear Material Inventory | Dean McDowell Bob Boyd | 10/1/87 | |
| 25. Requalification Exam | Dean McDowell | 6/15/87 | |
| 26. Performance Observation of Licensed Operators | Dean McDowell | 7/15/87 | |
| 27. Install Mirror Above Pool | Dean McDowell Dave Cox | 8/15/87 | |
| 28. Criticality Alarms | Mitch Mercer | 5/13/87 | 5/13/87 |
| a. Above pool would not alarm | | | |
| b. Monitor above Lab 149 does not work | | | |

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| 29. External Audit of Health Physics and Reactor Operations Audits Procedures 2002, 2003, Annual Reports, 2004, 2005, 4901, 2006, 2010, 2011, Console Log, Health Physics, Experiment Approval Forms, Operating Procedures for Adequacy | Nuclear Safeguards Committee | 11/15/87 | |
| 30. Deletion of Procedure 2210 | Nuclear Safeguards Committee | 7/9/87 | |
| 31. Update Emergency Telephone Roster Quarterly | Judy Rodgers | Every 3 Months: January, April, July, October | |
| 32. Update NNRC Punchlist Weekly | Judy Rodgers | Every Week | |
| 33. House Cleaning a. Hot Cell | Jerry Taylor | 5/15/87 | 5/1/87 |
| b. Reactor Building Contain- ment; All Three Floors | Jerry Taylor | 7/15/87 | |
| c. Office Space and Laboratories | Jerry Taylor | 6/15/87 | |
| 34. Change Resin Beds for Pool | Jerry Taylor | 6/1/87 | 5/25/87 |
| 35. Order New Resin Batch for Reactor | Jerry Taylor | 6/1/87 | 5/18/87 |
| 36. Wash Chute with H ₂ O on a Weekly Basis | Jerry Taylor | Weekly | |