Georgia Institute of Technology

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

(404) 894-3600

February 26, 1988

U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N.W.
Atlanta, Georgia 30303

Reference: Docket 50-160; License R-97

Gentlemen:

Pursuant to Section 6.7a of the Technical Specifications for the Georgia Tech Research Reactor (License R-97), the following annual report is submitted. The reporting period is January 1, 1987 through December 31, 1987 (calendar year 1987). The designation of the sections below follow the title and order of Section 6.7a of our Technical Specifications.

1. Operations Summary

   a. Changes in Facility Design

      There was a minor change in facility design comprising adding filters to the liquid waste system during this reporting period. (See appended minutes of the Nuclear Safeguards Committee.)

   b. Performance Characteristics

      During the reporting period the reactor was operated at power levels up to 1000 kw(t) using a 17-element core. Fuel performance has continued to be satisfactory with no known problems. (On February 3, 1987, due to a malfunction of the power level recorder, the power level climbed momentarily to 2.3 MW (see minutes of the Nuclear Safeguards Committee).

c. Changes in Operating Procedures

The following procedures were slightly modified, reviewed and approved by the Nuclear Safeguards Committee.

2012 Operating Log - Experiment Status
3800 Liquid Waste Disposal System
2011 Operating Data Log - Field
3100 Minor Experiment Approval
4400 D_2 Analysis in Reactor Cover Gas
7220 Building Isolation Test
7246 Control Element Reactivity Worth Measurement
6100 Emergency Notification
Emergency Plan Part I
7245 Reactor Shutdown Margin Determination
4300 Procedure Modification
9280 Personnel Surveying
2015 Reactor Power Calibration
9040 Liquid Waste Tank Analysis
2210 This procedure was deleted by the Nuclear Safeguards Committee

d. Results of Surveillance Tests and Inspections

The surveillance tests and inspections of the facility required by the Technical Specifications were performed. Documentation of each of the tests and inspections are available at the site for review.

e. Changes, Tests and Experiments Approved by USNRC

There were no changes, tests or experiments that required the approval of the USNRC pursuant to 10 CFR 50.59 (a).

f. Changes in Plant Staff and Committee Membership

Dr. R.A. Karam, Director, Nuclear Research Center
Mr. Leslie D. McDowell, Reactor Supervisor
Dr. R.A. Karam, Reactor Engineer
Mr. R.M. Boyd, Radiological Safety Officer
Mr. William Downs, Senior Reactor Operator
Mr. Mitch Mercer, Electronics Specialist
Mr. David Cox, a Trainee for Reactor Operator
Mr. Jerry Taylor, Senior Radioisotope Lab Specialist
Mrs. Judy Rodgers, Administrative Secretary

Mr. Paul Sharpe, Safety Engineering Assistant
Daphne Aycock, Administrative Secretary
Mr. Steve Millspaugh, Research Scientist I

The current organization of the Nuclear Safeguards Committee is as follows:

Nuclear Safeguards Committee membership from January 1, 1987 to June 30, 1987 was:

Mr. R.M. Boyd	Dr. J. Mahaffey, Chairman
Dr. B. Kahn	Mr. L.D. McDowell
Dr. R.N. Macdonald	Dr. Henry Neumann
Dr. P. Desai	Mr. J. Hopper

Nuclear Safeguards Committee membership from July 1, 1987 through December 31, 1987 was:

Dr. B. Kahn, Chairman	Dr. P. Desai
Dr. Howard D. Edwards	Dr. Richard Fink
Dr. James Mahaffey	Dr. R.N. Macdonald
Dr. Henry Neumann	Mr. G.L. Petherick*
Mr. Jack Vickery	Dr. J.R. Stevenson*
Dr. Waverly Graham**	Dr. David Walker**

* Dr. J.R. Stevenson, due to retirement, was replaced by Dr. Billy Livesay on September 9, 1987.

** Dr. David Walker and Dr. Waverly Graham, due to crowded work schedules, were replaced by Dr. Tudor Thomas and Dr. S.I. Abdel-Khalik respectively on December 10, 1988

2. Power Generation

For the period January 1, 1987 through December 31, 1987, the total power generation of the reactor was 192.01 megawatt hours. The reactor was operated for a total of 236 hours (see 1b for qualification). There was no operation at power levels higher than 1 MW.

3. Shutdowns

During the reporting period there were eight (8) unscheduled shutdowns of the reactor. These are tabulated in Table 1, as to the cause and preventive action taken.

4. Unscheduled Maintenance on Safety-Related Systems and Components

1) On January 6, 1987, the cooling water gamma monitor detector probe was replaced. Functional tests after replacement showed that performance was normal.

2) The H_2O flow recorder alarm annunciator wouldn't reset on February 20, 1987. A vaccum tube and two resistors were replaced. Solder joints and terminal screws were checked. Functional tests showed that performance was normal again.

3) The absolute and roughing filters were replaced on March 9, 1987.

4) The trace on the H_2O temperature recorder was erratic on April 8, 1987. A gear was replaced and the scanner switches and slide wire were cleaned. After recalibration functional tests showed that performance was normal again.

5) The external power supply for the calibration unit was replaced with a battery on April 8, 1987. Output voltage and Flux Amp 1 and 2 trip setpoints tested appropriately.

6) Picoammeter #2 was erratic on January 9, 1987. Electronics checked the tubes, cleaned the switch, and adjusted the level and balance output pots. After calibration functional tests showed that performance was normal again.

7) The power level recorder hung-up on February 3, 1987. The drive motor was disassembled, cleaned and checked. The pulleys and drive cable were cleaned and oiled. Functional tests showed that performance was normal again. (See minutes of the Nuclear Safeguards Committee, 87-02.)

8) The Kanne chamber recorder signal due to a source was not proper on February 4, 1987. The drive motor gear train and two capacitors were replaced. Calibration and source checks showed that performance was again normal.

9) The outside servo range alarm battery was replaced on April 8, 1987. The alarm setpoints were checked and found to be functioning properly.

10) The Picoammeter #1 was oscillating on April 13, 1987. A vacuum tube was replaced. The instrument was recalibrated. Functional tests showed that performance was normal.

11) The compensated ion chamber for Picoammeter #1 was replaced on April 16, 1987. A response curve was run. The pre-amplifier voltage, the detector, cables, and other components were checked and found to be functioning properly.

12) The moving air particulate, MAP-1, was not responding properly on April 22, 1987 and April 24, 1987. The low voltage power supply was adjusted. Functional tests showed that performance was normal again.

13) Fuel elements in storage were rotated into the core on April 29, 1987 to maintain self-protecting status.

14) A vacuum tube was replaced in the low nitrogen flow alarm on April 29, 1987. It worked fine.

15) The uncompensated ion chamber for Flux Amp #2 was replaced on April 30, 1987. The response to power change was verified as were the trip setpoints. Functional tests showed that performance was normal.

16) The trace on the power level recorder was erratic on May 21, 1987. Replaced vacuum tubes, slidewire contacts, pen drive motor. Checked other components. Tightened loose screw in input resistance network. The loose connection in the input resistance network was the root cause for the intermittent malfunction of this instrument on May 21, 1987 and on February 3, 1987.

17) Primary coolant pump, MD-1, was installed on September 15, 1987. Low D_2O flow trip setpoints were reset. Functional tests showed that performance was normal.

18) The delta T on the D_2O temperature recorder was low on October 22, 1987. D_2O flow and temperature recorders were recalibrated. Scanner switches were cleaned. Response of resistance temperature detectors were checked with constant temperature bath. Power calibration was done and functional tests showed that performance was normal.

19) The pen on conductivity recorder was erratic on October 27, 1987. The drive motor gear train and some vacuum tubes were replaced. The scanner switches were cleaned. Functional tests showed that performance was normal.

20) The low ion chamber voltage alarm wouldn't reset for Log N-Period #1 on November 2, 1987. A transistor was replaced in the power supply. The low voltage trip was reset. Functional tests showed that performance was normal.

21) The heat exchanger inlet (Hx-D2) was cleaned on November 20, 1987.

5. Changes, Tests and Experiments Without Prior U.S.N.R.C. Approval

During the reporting period there were sixty-three approved experiments for the Georgia Tech Research Reactor. Each of these was thought to have been evaluated prior to its approval with regard to Section 3.4 of our Technical Specifications. One experiment, R7402, did not receive adequate evaluation. Incident report and delineation of root cause was submitted to NRC-II on February 23, 1988.

6. Radioactive Effluents Releases

a. Gaseous Effluents

1) Gross Radioactivity Releases

a) Total gross radioactivity-noble gases:
Curies of Ar-41 (only detectable noble gas)
109.82

b) Average normal steady state concentration released out of stack.

1 MW:	3.0×10^{-6} microcuries/cc
5 MW:	No run at 5 MW (See 1b for qualification.)

c) Maximum instantaneous concentration released:

6.0×10^{-5} microcuries/cc
or
113 microcuries/sec ^{41}Ar

d) Percent of Technical specification limit: 19%

2) Iodine Released

a) Total radioactivity of iodine released: (Minimum detectable release is 400 microcuries/year)

b) Percent of Technical Specification Limit:

Less than 1.7

3) Particulates Released

a) Total gross radioactivity (Beta, Gamma) released:

Less than 1 microcurie

b) Gross alpha radioactivity released:

Less than 1 microcurie

c) Total gross radioactivity of nuclides with half-lives greater than eight days:

Less than 1 microcurie

d) Percent of MPC for particulates with half-lives greater than eight days:

Less than 0.01

b. Liquid Effluents

1) Total gross radioactivity (Beta, Gamma) released, excluding tritium, and average concentration
Total Released:* 545 microcuries

Average Concentration: 1.04×10^{-6} microcuries/cc before dilution with other Georgia Tech water

* The majority is from laboratory sinks or operations outside the reactor containment building and is not generally attributable to reactor operations.

2) Maximum concentration of gross unidentified (Beta, Gamma) released, excluding tritium, to unrestricted area:

2.1×10^{-6} microcuries/cc gross

3) Total alpha radioactivity released: (minimum detectability 2 microcuries/year):

None

4) Total volume of liquid waste released:

5.0×10^{8} ml

5) Total volume of dilution water:

7.4×10^{10} ml

6) Total radioactivity and concentration released by nuclide:

58,438.91 microcuries Tritium

Average concentration: 1.1×10^{-4} microcuries/cc Tritium

7) Percent of Technical Specification limit for total radioactivity from site:

34.67% for gross Beta, Gamma exluding tritium and 0.11% for tritium

7. Environmental Monitoring

a. through d. Environmental monitoring is done with 47 TLD's and 30 film badges.** See Figure 1; "Environmental Monitoring Stations." TLD's are changed on a three-month basis. Film badges are at 30 of the same locations as the TLD's.

TLD Dose mrem**

Highest 130*** (Station 9)
Lowest 0 (all stations except 9 and in the stack

* On three occasions (5/27/87, 6/26/87, 7/2/87) 4.05×10^{-6} microcuries/cc, 3.71×10^{-6} microcuries/cc and 1.42×10^{-5} microcuries/cc, respectively was identified and measured as Co^{60}.

** Minimum sensitivity for TLD is 3 mrem before 7/1/87 and 10 mrem after 7/1/87
Minimum sensitivity for film badge is 10 mrem

*** This dose was not from GTRR operations but rather from sealed sources used for calibration of health physics instruments.

Highest Annual
Average Radioactive Level 111* mrem/year (Station 9)

e. Maximum cumulative radiation dose from:

1. Direct radiation and gaseous effluent:

17 mrem/yr

2. Liquid effluents:

none or 1% 10 CFR20 limits

8. Total Occupational Personnel Radiation Exposure for 1987

No person received greater than 1000 mrem to the whole body. No person under the age of 18 years received greater than 20 mrem.

*This dose which includes background, was not from GTRR operations but rather from sealed sources used for calibration of health physics instruments.

If you have any questions concerning this report, please let me know.

Sincerely,

R.A. Karam

R.A. Karam
Director
Nuclear Research Center

RAK:jlr

pc: Members, Nuclear Safeguards Committee
Director, Office of Nuclear Reactor Regulation
Dr. T.E. Stelson
Frank Murphy

Table 1 Uncsheduled Reactor Shutdowns-1987

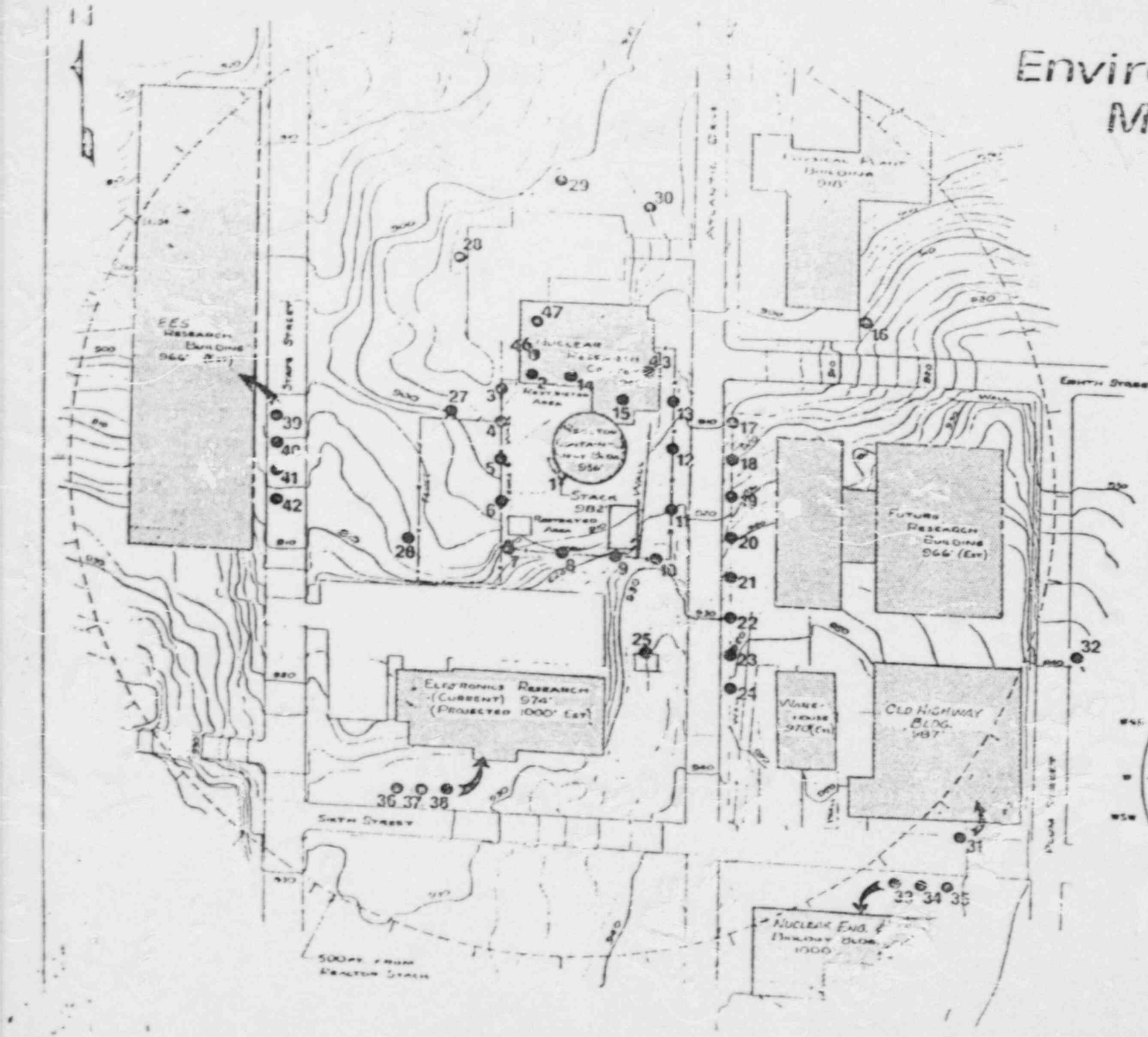
Report No.	Date	Trip Signal	Cause	Corrective Action
87-1	2/3/87	Manual Shutdown	A stuck pen on the power level recorder caused the automatic control circuit to start pulling the regulating rod. Reactor power increased to 2.3 MW before the reactor operator noticed that something was wrong. Regulating rod was taken out of automatic mode and the reactor was manually shutdown.	Recorder pen drive motor was dissasembled cleaned, regreased and tested for proper response. Cleaned and lubricated all pulleys and drive cable. Checked recorder slidewire. Electronics shop checked response. Functional tests showed that performance was normal. Nuclear Safeguards Committee required to change period trip to 15 seconds and switch to mode 1 operation.
87-2	2/10/87	Manual Scram	Arcing of K-16 relay contacts when SSB-1 drive motor was energized.	Disassembled K-16 relay and cleaned contacts. Tested and returned to service.
87-3	3/17/87	Reactor Tank Level	The switch is difficult to adjust and operate at the low end of its range because of low pressure differential	A new switch was ordered and has been received. The new switch must be reviewed and approved by the Nuclear Safeguards Committee before installation. In the meantime the switch continued to perform satisfactorily.
87-4	4/28/87	Reactor Tank Level		
87-5	4/30/87	Power Trip (Flux Amp #2)	Insulation leakage in the neutron detector caused the flux amp to drift up to the trip point.	Replaced the uncompensated ion chamber with a new one.
87-6	5/21/87	Flux Amp #1	The power recorder got stuck in a manner similar to unscheduled shutdown #87-1. The power level this time did not exceed 1.2 MW.	Careful evaluation of root cause revealed that one electrical lead in the input resistance network was loose due to an untightened screw. Tightening the screw removed the problem.
87-7	5/27/87	Manual Scram	Criticality Alarm	Required by procedure
87-8	10/17/87	Control Air Low Pressure	System air pressure was at the low end of its cycling range when the ventilation isolation valves were reopened after a source check of Kanne chamber.	Four isolation valves use a large volume of air when opened. Corrective action taken was to allow compressor to pump up before opening valves.

Environmental Monitoring Stations

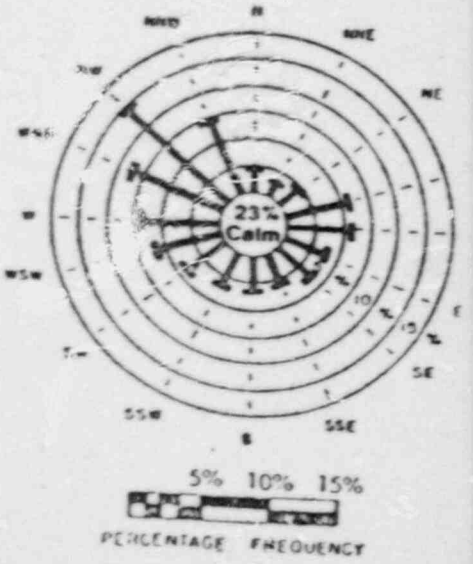
SEPTEMBER, 1986

SCALE 3/4 in. = 100 ft

0 50 100 200



ANNUAL SURFACE WIND ROSE



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GEORGIA TECH 1885-1985

DESIGNING TOMORROW TODAY

87-3

MINUTES
NUCLEAR SAFEGUARDS COMMITTEE

The Committee was called to order by Chairman, Dr. James A. Mahaffey at 9:00 a.m. on Thursday, April 9, 1987.

Members Present: R. Boyd (late arrival), P. Desai, J. Hopper, J. Mahaffey, R. MacDonald, and D. McDowell,

Members Absent: B. Kahn, and H. Neumann

Others Present: R.A. Karam, M. Mercer, and S. Millspaugh

Agenda:
1. Approval of February 10, 1987 meeting minutes
2. Approval of new procedure and modification to procedures
3. Discussion of draft report by Ad Hoc Committee on GTRR safety-related electronic equipment

1. Minutes

The Committee unanimously approved the minutes of the February 10, 1987 meeting as submitted.

2. Procedure Approval

A new procedure covering the Liquid Waste Disposal System (Procedure 3800) was circulated to members of the Committee. This procedure was written in order to meet Technical Specifications 6.4.b(6) and 6.4.b (7) which require having approved procedures detailing the sampling of liquid waste. In addition, the Committee was informed of the installation of strainers at three locations in the system of liquid waste storage tanks. One strainer (2500 microns) is located at the output of the two sump pumps; one is located at the output of the 5000 gallon tank, and one at the output of the two 1500-gallon tanks. These strainers and a minor pipe connection were added, after approval by the Safeguards Committee, so that liquid waste is filtered before dumping to the Atlanta sewer system. Procedure 3800 is appended.

The Committee considered Procedure 3800 from the point of 10 CFR 50.59 and concluded that the change did not constitute an unreviewed safety question and that the change enhanced safety. The procedure was unanimously approved.

Other procedures which were modified slightly and approved were: Procedures 2011, 2012, 3100, and Health Physics procedures, page 14, item 14.1.b. All revised procedures are appended.

3. Discussion of Draft Report by Ad Hoc Committee on GTRR Safety-Related Electronic Equipment

The Committee discussed the draft report and made the following recommendations.

1. Re-issue the report with specific factual information clearly stated.

2. Remove editorials that are not backed by specifics.

3. Correct errors.

4. Strengthen conclusions to reflect Mr. Paul Springer's excellent findings.

There being no further business the meeting was adjourned, the next meeting should be on or before July 9, 1987.

Submitted R. A. Karam
R.A. Karam
April 20, 1987

RAK:jlr

Attachments

I. Purpose

To assure that any release of radioactive effluents to the environment from the liquid waste disposal system is within specified limits. Waste water may be collected in either the 5000 gallon Suspect Waste tank or the two 1500 gallon Low-Level Waste tanks.

II. Pumping Low-Level Waste Tanks

a. Switch waste collection to Suspect (the switch is located on the vestibule panel)

Pumping Low Level Tank #1

b. Check that valve 336A on the bottom of LL#1 is OPEN
c. OPEN valve 302B (pump #2 suction valve). All other valves on the suction manifold should be closed
d. OPEN valve 305B (pump #2 discharge valve)
e. Check that valves 308A and B and 307A and B (the inlet and outlet valves to filter #1 (5 micron) and filter #2 (125 micron)) are OPEN
f. Check that valves 309A and B (filter bypass valves) are CLOSED
g. OPEN valve 340A (cross connection from #2 discharge manifold to #1 pump discharge)
h. Check that valve 305A (pump #1 discharge) is CLOSED
i. Check that valve 318B is CLOSED. OPEN valve 318A
j. OPEN valve 311A
k. Start the pump
l. Recirculate LL#1 for several minutes. OPEN valve 306A and obtain a 500 ml sample. Secure the pump
m. Take the sample to HP for analysis. If analysis shows that the sample is within specified limits, proceed to pump the tank
n. CLOSE valve 311A. OPEN valve 353A (discharge manifold)
o. Install the removable spool piece in the sewer discharge line at the discharge manifold
p. OPEN valves 354 and 355. Note: The flow discharge rate will vary from 1000 to 0 gal/hr depending on the pressure drop across the filters. Blowdown the Y strainer as often as is necessary
q. Start the pump. Note the time and tank level at the start of the discharge to the sewer

r. At approximately the midpoint of the discharge take two 500 ml samples:
   1. OPEN valve 306A (at cross connection between 125 and 5 micron filters), to obtain the samples
   2. Take the samples to HP for analysis (should be analyzed quickly)

s. When the tank is empty or the discharge is terminated:
   1. Note the time and tank level
   2. Secure the pump
   3. CLOSE all preceeding valves except the 4 filter valves (307A and B, 308A and B)
   4. Remove the spool piece from the discharge line and return it to the waste panel
   5. Complete the necessary paperwork

Pumping Low Level Tank #2

Repeat steps b. thru s. with the following exceptions:
   1. Substitute valve 336B for 336A in b.
   2. Reverse valves 318A and 318B in j.

III. Pumping Suspect Waste Tank

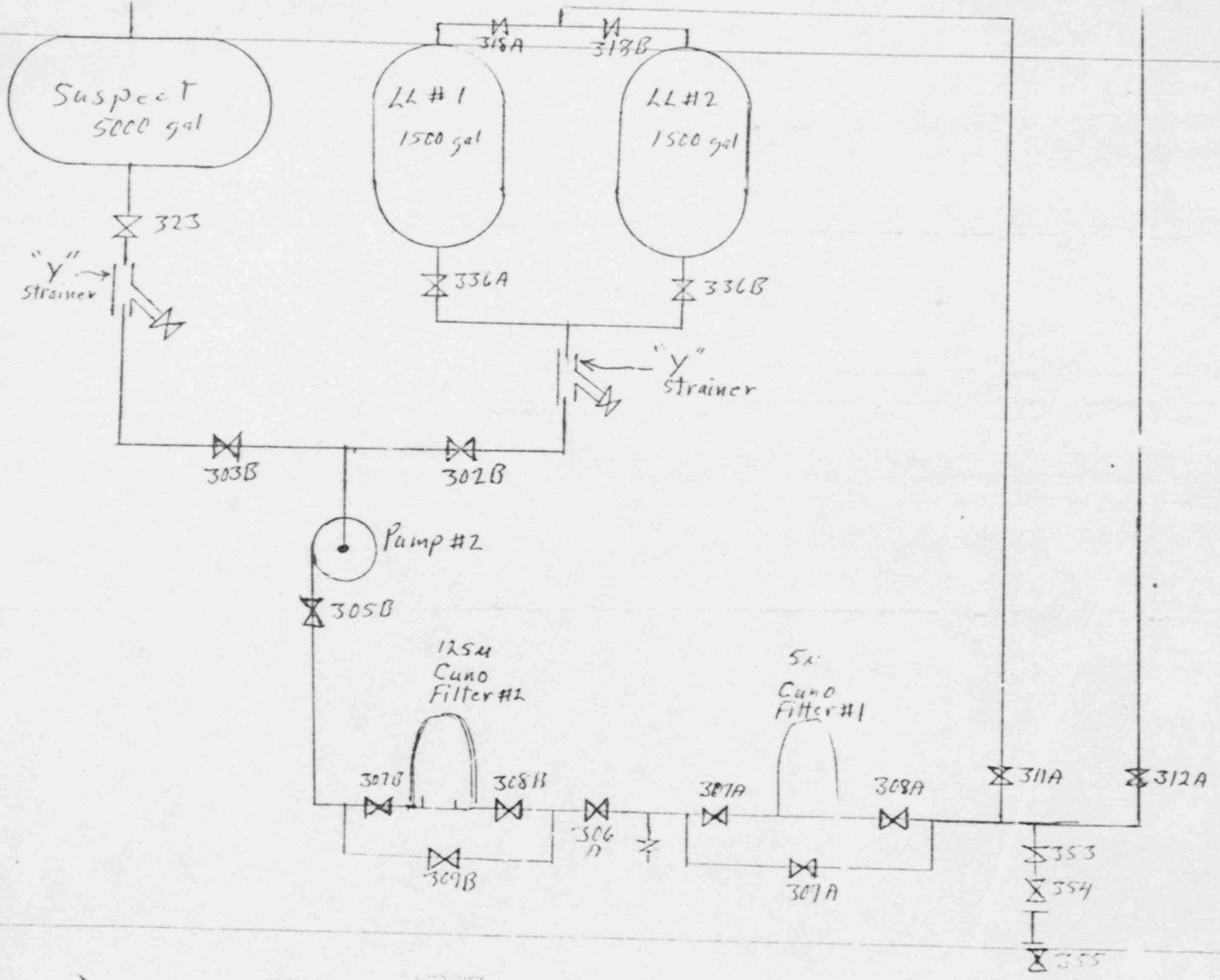
a. Switch waste collection to Low-Level (the switch is located on the vestibule panel)
b. Check that valve 323 (bottom of Suspect tank) is OPEN
c. OPEN valve 303B (pump #2 suction manifold)
d. OPEN valve 305B (pump discharge)
e. Check that valves 307A and B, 308A and B (inlet and outlet to 125 and 5 micron filters) are OPEN
f. Check that valves 309A and B (filter bypass valves) are CLOSED
g. OPEN valve 340A (cross connection from #2 discharge manifold to #1 pump discharge)
h. OPEN valve 312A. CLOSE valve 312B
i. Start the pump
j. Recirculate for several minutes. OPEN valve 306A and obtain a 500 ml sample. Secure the pump
k. Take the sample to HP for analysis. If analysis shows that the sample is within specified limits, proceed to pump the tank
l. CLOSE valve 312A. OPEN valve 353A (discharge manifold)
m. Install the removable spool piece in the sewer discharge line at the discharge manifold
n. OPEN valves 354 and 355.
o. CLOSE valve 312B. Start the pump
p. Note the time and tank level. The flow discharge rate will vary from 1000 to 0 gal/hr depending on the pressure drop across the filters. Blowdown the Y strainer as often as is necessary

q. At approximately the midpoint of the discharge take two 500 ml samples:
   1. OPEN valve 306A (at cross connection between 125 and 5 micron filters), to obtain the samples
   2. Take the samples to HP for analysis (should be analyzed quickly)

r. When the tank is empty or the discharge is terminated:
   1. Note the time and tank level
   2. Secure the pump
   3. Close all preceeding valves except the 4 filter valves (307A and B, 308A and B)
   4. Remove the spool piece from the discharge line and return it to the waste panel
   5. Complete the necessary paperwork

IV. Ancillary Information

a. Reference Data
   10 CFR part 20
   Technical Specifications 3.5.a


Suspect
5000 gal
LL #1
1500 gal
LL #2
1500 gal
316A
313B
323
"Y"
Strainer
336A
336B
"Y"
Strainer
303B
302B
Pump #2
305B
125μ
Cuno
Filter #2
5x
Cuno
Filter #1
307B
308B
306
307A
308A
311A
312A
309B
307A
353
354
355

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DESIGNING TOMORROW TODAY

87-02

MINUTES
NUCLEAR SAFEGUARDS COMMITTEE

The Committee was called to order by Chairman, Dr. James Mahaffey at 9:00 a.m. on Tuesday, February 10, 1987.

Members Present: R. Boyd, P. Desai, J. Hopper, J. Mahaffey, R. MacDonald, D. McDowell, and H. Neumann

Members Absent: Bernd Kahn

Others Present: Becky Long and Larry Mellen of U.S.N.R.C. and R.A. Karam

Agenda: Unintended power increase on the GTRR on 2/3/87 at 4:25 p.m.

Background of the event: The reactor was started up for a class training in reactor operation. The power level reached 300 KW. At this level, the servo mechanism was activated to automatically control the power so that a neutron radiograph is obtained using the beam from port H-1. The chart recorder from which the signal to the servo mechanism is taken got stuck in such a way that the reactor was on a positive period of approximately 15 seconds (equivalent to 0.0017 delta K/k). The power increased to approximately 2.3 MW before the senior operator on duty discovered the increase and brought the reactor back under control. The time span during which the power was increasing was about 31 seconds (based on a 15 second period). The dose to those around the beam port H-1 was apparently too small and the TLD's worn by personnel did not record any increase.

On February 5, 1987 after R.A. Karam returned from a trip to California, Mr. Boyd informed him of what happened on February 3, 1987. Dr. Karam called a staff meeting at 8:15 a.m. to discuss the incident. At this meeting two issues were discussed: (1) what was the cause of the malfunction of the chart recorder and (2) what changes in instrumentation and/or procedures are needed to prevent future repeats.

With regard to the cause of the malfunction Mr. Mitchell Mercer, Electronics Specialist, reported that he cleaned the chart recorder thoroughly. During this process he observed that the guidewire was off the pulley and around the post. He could not recall if the cleaning process was responsible for the guidewire being out of its normal position on the pulley. He further stated that he tightened a few electrical contacts. After this the chart recorder was operating in a normal manner.

With regard to what changes in instrumentation and/or procedures are needed to prevent a repeat the following were discussed:

1. Set the period trip at either 15 or 20 seconds rather than at the 10 second Technical Specifications limit.

2. When operating in mode one, i.e. at or below 1 MW, set the power level trip at 1.25 MW rather than at 5 MW.

3. Devise some method through which the attention of the operator can be attracted if the chart recorder were to get stuck again.

4. Operators as a matter of course should pay close attention. No action was taken with regard to any of the items discussed above.

At 9:00 a.m. February 5, 1987, R.A. Karam called for a meeting of the Nuclear Safeguards Committee to discuss these issues. The meeting was held on February 10, 1987 at 9:00 a.m.

The committee discussed the issues at some length in the presence of U.S.N.R.C. inspectors Becky Long and Larry Mellen. The following recommendations were adopted.

1. For mode 1 operation (i.e. at or below 1 MW level) the power level trip will be set at 1.25 MW.

2. The period trip setting will be at 15 seconds instead of the Technical Specifications limit of 10 seconds.

3. Operating staff will look for ways to incorporate a buzzer in the linear picoammeter which does not drive the chart recorder of the automatic control servo mechanism. The control room has two linear picoammeters, one drives the servo mechanism and the other is there for redundancy. A limit switch at the upper end of the scale of one picoammeter could activate a buzzer to draw the attention of the operator. The operating staff will report back to the Committee about the design change required for this modification. Approval for the change from the Committee will be sought before implementation.

4. Jim Mahaffey volunteered for, and the Committee accepted his conducting an evaluation of the condition and the operability of all safety related equipment used in the GTRR. Mahaffey's report is due back to the Committee on April 9, 1987.

The operating staff will implement items 1 and 2 immediately.

There being no further business, the meeting was adjourned.

The next Committee meeting should be on or before April 9, 1987.

Submitted R.A. Karam
R.A. Karam
February 10, 1987

RAK:jlr