



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

P.2
5-19

DOCKETED
USNRC

February 12, 1988

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MEMORANDUM FOR: Malcolm L. Ernst
Deputy Regional Administrator

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

FROM: Albert F. Gibson, Director
Division of Reactor Safety

SUBJECT: GEORGIA TECH ISSUES CONCERNING WITHDRAWN VIOLATIONS

1. Paul Burnett has completed followup on several of the items from the previous inspection. His input is enclosed (Enclosure 1). It will be part of the HP inspection, Report No. 50-160/87-08.

Paul is scheduled to perform a complete research reactor inspection by May 1988 and will do more followup at that time.

2. Both Becky Long and Paul Burnett were aware of and involved in the review of the denials. Following Becky's transfer from the Test Programs Section (TPS) in March - April 1987, Paul was assigned responsibility as cognizant inspector. He conferred with Becky on the denials and recommended not granting them. The cognizant inspector was informed, in writing, when his recommendations were not accepted (Enclosure 2).

3. Typically, when a denial is granted the licensee has made a compelling case in his letter for revoking the violation and a relatively brief summary of this case is provided by the staff since we agree with the licensee. When we disagree with the licensee and do not grant the denial, then we must state our case in detail. Recognizing this, I understand your comment and agree that this one could have been more comprehensive. We will assure that staff evaluations of denials in the future will be sufficiently substantial to accomplish their intent.

4.a. Violation A.2.b - This was one example of a failure to provide adequate procedures. The violation remained, only the example was deleted. In retrospect, we may have been able to make a case not to drop the example, but the bottom line is the violation was not withdrawn.

b. Violation B - One example of four in the area of Administrative Control of Procedures was dropped. Again, we may have been able to make a case for this, but it was only one example of four and the violation was not withdrawn.

c. Violation E - In this case we appear to have denied the violation inappropriately. The licensee admitted that performance evaluations were not being done but claimed that summaries of control manipulations exist in the file. The inspectors doubt this last statement. Absent any additional data, the violation should not have been withdrawn.

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NUCLEAR REGULATORY COMMISSION
Docket No. 50-160-LEN EXHIBIT NO. 19
In the matter of Ge. Tech
 Staff Applicant Intervenor Other
 Identified Received Rejected Reporter WCV
Date 5/24/96 Witness Paul A

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- d. Violation F - The licensee failed to make a compelling argument that the Nuclear Safety Committee is carrying out its assigned responsibility. Stating that it is a voluntary organization and, as such, cannot be expected to provide comprehensive audits and that since Technical Specifications do not provide a periodicity requirement for audits that a periodicity of zero meets the requirements is not acceptable.
5. The material false statement issue seems to be more appropriately addressed as an example of inadequate corrective actions since the licensee appears to have reviewed some, but not all, facility drawings.
6. URI 87-01-09:

Shim blade minimum position - Technical Specification 3.1.d stated "Prior to criticality each shim-safety blade which is withdrawn above full insertion shall be positioned so that a free fall of the blade towards its full inserted position will result in a reactor scram activated by a negative period scram."

The licensee could not identify for the inspector any procedure where this Technical Specification requirement was addressed. The shim blades were normally positioned above ten degrees. The licensee could not identify for the inspector where it had been established and documented that this position was sufficient to ensure a negative period scram.

URI 87-01-10:

Technical Specification 4.4.b requires the resistivity of the primary coolant to be measured weekly. The involved sensor, CRAD 1, was not being calibrated. In this case calibration would have been very difficult to accomplish.

Discussions with the licensee indicated that calibrations of certain sensors or other instruments, which are part of the safety systems in Table 4.1, had been performed at one time but were possibly no longer being performed.

The licensee agreed to review the adequacy of calibrations of instruments not specifically addressed in the Technical Specification Table 4.2 yet required for the functioning of the safety systems in Table 4.1.

IFI 87-01-12:

The inspector identified that the radiation levels of spent fuel stored at the site were not being verified to be self-protecting. 10 CFR 73.67(b)(1)(i) exempted irradiated fuel assemblies from certain physical safeguards requirements when the external radiation dose rate was in excess of 100 rems per hour. Usual practice at research reactors is to recycle spent fuel back into the core to maintain the

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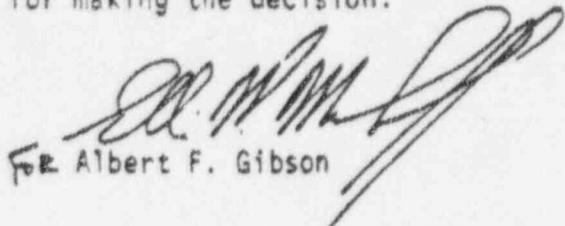
February 12, 1988

required 100 r/hr levels. Both Operations and Health Physics personnel expressed a desire to verify the self-protection of the fuel, but stated that measurements of the radiation levels of the spent fuel would cause radiation doses to personnel and the risk of contamination. The licensee felt this would contradict the ALARA concept. Operations personnel measured the radiation level of an assembly once and found it to be over 900 r/hr. However, Health GTRR personnel expressed a lack of certainty that the radiation levels of all the spent elements exceeded the 100 r/hr requirement. The GTRR staff requested guidance from the NRC in this area.

IFI 87-01-08:

The inspector observed that there was no procedure for documenting when the GTRR was operating in an LCO condition. Most of the Technical Specification LCO time clocks were eight hours. The licensee stated that if a piece of equipment went out of service during operation, and they had redundancy, they would continue to operate for the remainder of the day, up to eight hours. If the equipment was Technical Specification related, it would be repaired before starting up again. Normally, equipment failing or being taken out of service was entered in the console logbook, but the inspector was aware of at least one case where that was not done.

7. With regard to the allegation concerning an operator at the controls, the inspector was unable to determine whether or not the event had occurred (Enclosure 3). No new information has been brought forward at this time to provide the basis for making the decision.



FOR Albert F. Gibson

Enclosures:

1. Input to Inspection Report
EO-160/87-08
2. Note, Jape to Burnett
dtd 8/27/87
3. Memo, Herdt to DeMiranda
dtd 4/14/87

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Input to Inspection Report 50-160/87-08

P. T. Burnett

***** Add to Paragraph 2 *****

Inspector followup item 160/87-08- : The licensee is to perform a quantitative evaluation of the frequency of cover gas surveillance - paragraph _.

Followup on Previous Enforcement Matters (92702)

Violations identified in Inspection Report 160/87-01 and responded to in licensee letters dated May 25, 1987 and July 15, 1987 were reviewed. The identification of the violation is consistent with that used in the Notice of Violation enclosed with the report.

The following violations were closed:

A.1.a: There was no approved procedure to measure excess reactivity to assure it did not exceed the limits of Technical Specification 3.1.e. Procedure 7246, Control Element Reactivity Worth was revised on October 30, 1987. Step V. establishes an excess reactivity calculation, using the measured worths, on the Reactivity Worth Report Form (page 3 of the procedure), and states an acceptance criterion that excess be less than 11.9% $\Delta k/k$. The procedure does require a plot of the integral control element worth curves, but does not provide data sheets to capture the reactor period and associated reactivity worth data obtained in the measurements and used to plot the data and to satisfy the acceptance criteria. Review of some of the completed procedures in the files revealed that general purpose data sheets, appropriately headed and filled out, had been used to capture the data and were attached to the completed procedures.

A.1.b: There was no approved procedure to measure the D2 concentration in the cover gas to assure it was less than 2% by volume before making the reactor critical as specified in Technical Specification 3.6.e. The licensee purchased a gas chromatograph and prepared a procedure for its use, 4400, D2 Analysis in Reactor Cover Gas (issued October 30, 1987). The procedure has been performed once, and the measured concentration was much less than the limit. The procedure specifies an annual performance frequency, but no technical justification of that frequency was provided by the licensee. The reactor operated for less than 200 megawatt hours in the recent year, but is capable of thousands of megawatt hours of operation in a year. Increased operation and other activities not considered by the licensee may affect the rate of D2 production. Although no longer surveillance interval is acceptable, other considerations may dictate a shorter interval is necessary to maintain confidence Technical Specification 3.6.e is always satisfied. The licensee has agreed to perform a quantitative evaluation of the frequency of cover gas surveillance (Inspector followup item 160/87-08-).

A.2.a: Procedures 2350 and 2400 referred to helium as the cover gas although nitrogen is currently being used (see also violation D). The procedures have been changed to indicate nitrogen as the cover gas.

A.3.a: The operators failed to log data required by procedure. The operators were counselled by management on the requirements to follow procedures. Audits of the operators' log have by management have confirmed acceptable log keeping.

A.3.b: Procedure 2210 was not performed with the required frequency. Review of the procedure and the its requirement to run water through the cooling tower weekly led licensee management to the conclusion that neither were required in the current and anticipated modes of operation. The procedure was deleted with the approval of the NSC.

The following violations remain open pending further action by the licensee:

A.1.c: The requirement of Technical Specification 3.5.b.6 that the containment isolation valve closing time be less than five seconds was not addressed in a surveillance procedure. Procedure 7220, Building Isolation Test, was revised to include step D to measure the valve closing time and an acceptance criterion of less than five seconds was specified. The procedure does not include data sheets for recording the measurements, nor does it specify the method used to determine valve closing time. Discussion with management and the operator who performed the test confirmed that the measurement was based upon observing stem travel time. Management has agreed to revise the procedure accordingly.

D: The licensee changed the cover gas specified in Technical Specification 3.6.e from helium to nitrogen without first obtaining the appropriate change to the specifications. The licensee subsequently submitted a proposed change to the specifications, but has yet to submit an acceptable safety evaluation to justify the change. Nevertheless, the licensee

continues to use nitrogen as the cover gas with the tacit approval of Region II management.

The other open violations from inspection 87-01, with the exception of violation B.1, will be addressed in the next routine inspection of the facility.

Violation B.1 stated that, contrary to the requirements of Technical Specification 6.3.a(1), estimates of isotopic activities were not being entered in the space provided on Request for Minor Experiment Approval form. In their letter of July 15, 1987, the licensee denied the violation with the argument that it was not the intent of the form to require calculation of the activities expected from all irradiations. Region II management accepted the argument and deleted the violation in the NRC letter of August 31, 1987. In the event that prompted this inspection, that same form was filled out inaccurately in that all activities were listed as nil. In further review of minor experiment forms completed since August 1987, the inspector determined that many of them were filled out inaccurately. Only the activity of interest to the experimenter was listed and the other activities, from other isotopes of the same element, that would be produced were not calculated in many cases. Clearly the form is not being used in a manner that would promote safe handling of the irradiated package, and there appears to be no other control imposed by the licensee to accomplish that end.



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AUG 27 1987

NOTE TO: Paul Burnett
FROM: Frank Jape
SUBJECT: GEORGIA TECH RESEARCH NOV DENIALS

I've prepared an acknowledgement letter for GT Inspection 50-160/87-01 and their letters of May 25 and July 15, 1987.

I plan to delete several of the violations rather than keep them open for further inspection as you proposed in your draft reply. See the enclosed sheet for disposition of each violation.

The acknowledgement letter is routing for concurrence and has been tentatively agreed in by Herdt, Verrelli, and Fredrickson.

Since GT has sent in a change request to their TS, I don't believe we need to request additional information. (see their letter of August 6, 1987 on TS changes and July 6, 1987 on Reorganization).

On your next inspection, I think it would be appropriate to thoroughly review their performance.

Frank Jape
Frank Jape

cc w/encl:
A. Herdt
D. Verrelli
P. Fredrickson
F. Jape

Enclosure
Summary of Violation
50-160/87-01

| <u>Item</u> | <u>GT Response</u> | <u>NRC Position</u> |
|-------------|--------------------|---|
| A. 1. a. | admit | accept |
| b. | admit | accept |
| c. | admit | accept |
| 2. a. | deny | keep-TS Change Requested |
| b. | deny | delete-Not a Regulatory Requirement |
| 3. a. | admit | accept |
| b. | admit | accept |
| B. 1. | deny | delete-Not a Requirement |
| 2. | admit | accept |
| 3. | admit | accept |
| 4. | admit | accept |
| C. | admit | accept |
| D. | deny | keep-same subject as 2.a.-TS Changed Requested |
| E. | deny | delete-appraisals Not a Regulatory Requirement |
| F. 1. | deny | delete-Change Request for NSC Charter Submitted |
| 2. | deny | delete |
| 3. | deny | delete |
| 4. | deny | delete |

APR 14 1987

MEMORANDUM FOR: Oscar DeMiranda, Regional Allegations Coordinator
Enforcement and Investigations Coordination Staff

FROM: Alan R. Herdt, Chief, Engineering Branch
Division of Reactor Safety

SUBJECT: GEORGIA TECH ALLEGATION RII-86-A-0246 (OPERATION WITHOUT
LICENSED INDIVIDUAL IN THE CONTROL ROOM)

The Engineering Branch reviewed allegation RII-86-A-0246 in conjunction with a routine inspection documented in Inspection Report Number 50-160/B7-01. The inspector found no direct evidence that the reactor was being operated without a licensed individual at the controls, and discussions with operators verified that they understood the Technical Specification requirements in this area. However, the inspector determined through discussions with other licensee personnel that multiple persons had unofficially voiced this same concern to members of the Georgia Tech staff.

It is my understanding that D. Verrelli will follow through on this allegation with a letter to the Director of GTRR, Dr. R. A. Karam. Dr. Karam will be requested to look into the matter and provide a response to the NRC.

Without either tangible evidence or witnesses willing to officially state that the reactor has been operated without a licensed individual present at the controls, the Engineering Branch recommends that the file on this allegation be closed.

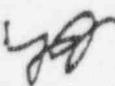
/s/

A. R. Herdt

cc: D. Verrelli

CONTACT
A. R. Long
X 4676

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