016

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUL 11 1985

Mozart G. Ratner, Esquire
1900 M Street, NW, Suite 610
Washington, DC 20036

IN RESPONSE REFER
TO FOIA-85-440

Dear Mr. Ratner:

This is a final response to your letter dated June 19, 1985, in which you requested, pursuant to the Freedom of Information Act (FOIA), copies of the following documents:

(1) Part II of General Electric's (G.E.) license application;

(2) Letters dated January 31, 1985, and February 7, 1985, from Mr. Stohr to G.E.;

(3) Letter's from G.E. to Mr. Stohr, dated March 1, March 7, and April 5, 1985;

(4) Any letter from G.E. to Mr. Stohr responding to Mr. Stohr's letter of May 16, 1985.

With further regard to category 1, we have learned that Part II was submitted on July 25, 1983, as part of G.E.'s Revised Application for Renewal of License. We understand that you have inspected this document at the Nuclear Regulatory Commission's Public Document Room (PDR).

The records subject to category 2 of your request have been reviewed for a previous FOIA request (FOIA-85-208). Our response to that request is maintained in the PDR in folder FOIA-85-208 under the name of Mr. Polson. You may obtain copies of these documents by referring to that FOIA folder.

The documents listed on the enclosed Appendix are subject to category 3 of your request and are being placed in the PDR. You may obtain access to these records by presenting a copy of this letter to the PDR staff or by requesting folder FOIA-85-440 under your name.

8508230138 850711
PDR FOIA
RATNER85-440 PDR

We have been informed by the staff that there has been no response to Mr. Stohr's letter of May 16, 1985 (Inspection Report 70-1113/85-02) to G.E.

This completes action on your request.

Sincerely,

J. M. Felton, Director
Division of Rules and Records
Office of Administration

Enclosure: As stated

Re: FOIA-85-440

APPENDIX
Documents Being Placed in PDR

1. 03/01/85 Letter to J. Philip Stohr from Charles M. Vaughan, re:
   (1) NRC License SNM-1097, Docket #70-1113
   (2) NRC Inspection Report 70-1113/84-17 dated 1/31/85, received 2/5/85. (13 pages)

2. 03/07/85 Letter to Mr. J. Philip Stohr from Charles M. Vaughan, re:
   (1) NRC License SNM-1097, Docket #70-1113
   (2) NRC Inspection Report 70-1113/84-15 dated 2/07/85, received 2/11/85 (4 pages)

3. 04/05/85 Letter to Mr. J. Philip Stohr from Charles M. Vaughan, re:
   (1) NRC License SNM-1097, Docket #70-1113
   (2) NRC Inspection Report 70-1113/84-17 dated 1/31/85, received 2/5/85
   (3) Letter, CM Vaughan to JP Stohr, 3/1/85. (9 pages)

LAW OFFICES
MOZART G. RATNER, P. C.
1900 M STREET, N. W.
SUITE 610
WASHINGTON, D. C. 20036
AREA CODE 202
223-9472

June 19, 1985

FREEDOM OF INFORMATION ACT REQUEST

FOIA-85-440
rec'd 6/20/85

Mr. Joseph Felton
Divison of Rules and Records
Office of Administration
Nuclear Regulatory Commission
Washington, D. C. 20555

Re: Ratner and Schiller v. General Electric Company (2.206 Proceeding) and NRC, Region II, Report No. 70-1113/85-02

Dear Mr. Felton:

In connection with the above-captioned matter, I request that you furnish me, as soon as possible, with a copy of each of the following:

(1) Part II of General Electric Company's license application, dated May 14 and June 20, September 24, October 23, November 12, November 20, December 3, and December 19, 1984;

(2) Letters dated January 31, 1985 and February 7, 1985, from Mr. Stohr to G.E., referenced in Mr. Stohr's letter to Mr. Lees dated May 16, 1985, fourth par., SUBJECT: Report No. 70-1113/85-02;

(3) Letters from G.E. to Mr. Stohr, dated March 1, March 7, and April 5, 1985, referenced id. in paragraph (2), above;

(4) Any letter from G.E. to Mr. Stohr responding to Mr. Stohr's letter of May 16, 1985, referenced in paragraph 2, above.

Please advise immediately you have these documents available for delivery, as I will pick them up or send a special messenger for them. Time is of the essence.

Sincerely yours,

Mozart G. Ratner

1P

cc: Mr. James Lieberman

GENERAL ELECTRIC

WILMINGTON MANUFACTURING DEPARTMENT
GENERAL ELECTRIC COMPANY • P.O. BOX 780 • WILMINGTON, NORTH CAROLINA 28402

March 7, 1985

85 MAR 14 A 7:49
U.S. NRC, RGN-II
Atlanta, Ga.

Mr. J. Philip Stohr, Director
Division of Radiation Safety and Safeguards
U.S. Nuclear Regulatory Commission, RII
101 Marietta Street, NW - Suite 2900
Atlanta, Georgia 30303

Dear Mr. Stohr:

Reference: (1) NRC License SNM-1097, Docket # 70-1113
(2) NRC Inspection Report 70-1113/84-15
dated 2/07/85, received 2/11/85

Thank you for your letter reporting the results of the inspection conducted at our licensed fuel fabrication plant by Mr. E. L. Clay of your office on November 13-16, and December 3-7, 1984.

Pertaining to the one item of apparent noncompliance with NRC requirements in your letter, the reply to this item is given in the attachment to this letter. This attachment is marked pursuant to Reference 2.

We appreciate your inspector's comments and suggestions related to public and employee health and safety. These comments and suggestions are helpful to us in our constant efforts to improve these programs, and ensure our compliance with NRC regulations and license conditions. We also welcome further discussion with your staff on the item in your letter and in our related reply, if necessary, for further clarification of this item.

Sincerely,

GENERAL ELECTRIC COMPANY

Charles M. Vaughan

Charles M. Vaughan, Manager
Regulatory Compliance

/sbm

NSD-I

4pp.

2

GENERAL ELECTRIC

~~EXEMPT FROM DISCLOSURE~~
10 ~~CFR 2.790 INFORMATION~~

Mr. J. Philip Stohr
March 7, 1985

ATTACHMENT

The information given below refers to the item in Enclosure 1, "Notice of Violation," in the NRC Inspection Report 70-1113/84-15, dated 2/07/85.

> License Condition 9 requires that licensed material be used in accordance with the statements, representations, and conditions of Part 1 of the licensee's application. Part 1, Section 2.2.1.1 of the licensee's application requires that the Area Manager establish and approve written operating procedures incorporating radiation safety controls.
>
> Contrary to the above, the requirements of the license condition were not met, in that on December 3, 1984, visible uranium contamination was observed in the LEA measurement room which had not been cleaned up immediately as required by plant procedure Nuclear Safety Release 6.1.0.
>
> This is a Severity Level IV violation (Supplement IV).

General Electric Company acknowledges that on 12/3/84 visible contamination was observed in the low enrichment analyzer (LEA) measurement room.

The reason the contamination had not been cleaned up by laboratory personnel, in accordance with Nuclear Safety Release requirement 6.1.0, Rev. 4, was that the spill had not been reported or observed, during routine surveys or otherwise, prior to the NRC inspector identifying it. The area involved had been surveyed by Radiation Protection during an NRC inspection (70-1113/84-17) on day shift, 11/28/84, and a second time on the next working shift. The first survey was performed in the presence of an NRC

inspector. No contamination above the action guidelines was observed or detected during either of these surveys.

Once the spill was identified, it was immediately cleaned up. Laboratory personnel were verbally alerted to the situation and reminded that established procedures require immediate clean-up of radioactive material spills.

In order to avoid further violations of this type and to assure compliance with existing NFMD procedures, the Chemet Lab has instituted an independent self-monitoring program for fixed and smearable contamination in addition to the regularly scheduled Radiation Protection area surveys. This activity is independent of and does not constitute a component of our licensed radiation protection program. It does, however, provide a technique for the laboratory personnel to verify the effectiveness of their clean-up procedures.

Concurrently, we have been reviewing the routine radiation protection survey practices. The current practices were designed to monitor high traffic areas and selected work stations. The theory supporting this type of program is that monitoring these areas would be most effective in detecting contamination.

Since the subject NRC inspection, the number of points surveyed by Radiation Protection and their frequency have been temporarily increased in the Chemet Lab to more clearly define the effectiveness of laboratory practices and the self-monitoring program. Surveys in the lab have been expanded to include areas that are not normally accessible to personnel in addition to the normal workspace locations. We expect this program to provide information to help in defining any additional avenues for improvement.

Chemet Lab supervisors have re-emphasized to lab employees the importance of recognizing and immediately cleaning up spills of contamination by anyone. Internal lab procedures will be updated to provide guidelines for prevention of contamination within the LEA measurement room and the Chemet Lab.

GENERAL ELECTRIC

~~EXEMPT FROM DISCLOSURE~~
~~10 CFR 2.790 INFORMATION~~

The identified program will enable GE to be in full compliance by May 31, 1985.

CM Vaughan
:bsd

J.P. STOHR
KSS

GENERAL ELECTRIC

WILMINGTON MANUFACTURING DEPARTMENT
GENERAL ELECTRIC COMPANY • P.O. BOX 780 • WILMINGTON, NORTH CAROLINA 28402

85 MAR 1 P 3:31

March 1, 1985

Mr. J. Philip Stohr, Director
Division of Radiation Safety & Safeguards
U.S. Nuclear Regulatory Commission, RII
101 Marietta Street, NW - Suite 2900
Atlanta, Georgia 30303

Dear Mr. Stohr:

Reference: (1) NRC License SNM-1097, Docket #70-1113
(2) NRC Inspection Report 70-1113/84-17
dated 1/31/85, received 2/5/85

Thank you for your letter reporting the results of the inspection conducted at our licensed fuel fabrication plant by Mr. C. M. Hosey of your office on November 27-30, 1984.

With regard to the first item of apparent noncompliance and the generally stated concern about the implementation of the NFMD radiation protection program, General Electric has requested a management meeting to discuss the issues prior to responding in writing. This approach was determined to be acceptable via a telephone conversion with Mr. E. J. McAlpine on 3/1/85. The meeting is currently scheduled for the morning of March 13, 1985, in Atlanta.

Pertaining to the second item of apparent noncompliance with NRC requirements in your letter, the reply to this item is given in the attachment to this letter.

We appreciate your inspector's comments and suggestions related to public and employee health and safety. These comments and suggestions are helpful to us in our constant efforts to improve these programs, and ensure our compliance with NRC regulations and license conditions. We also welcome further discussion with your staff on the items in your letter and in our related reply, as necessary, for further clarification.

Your inspection report referred to above does not contain information which we believe to be proprietary.

Sincerely,

GENERAL ELECTRIC COMPANY

4 pp.

Charles M. Vaughan

Charles M. Vaughan, Manager
Regulatory Compliance
M/C J26

/sbm
Attachment
NSD-I

GENERAL ELECTRIC

ATTACHMENT

The information given below is in response to NRC Inspection Report 70-1113/84-17, "Notice of Violation - Enclosure 1", dated 1/31/85.

1. 10 CFR 20.103(a)(3) requires the licensee to use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas.

   Contrary to the above, the licensee failed to use suitable measurements of concentrations of radioactive material in air in that air samplers in the Chemet Laboratory were not located where the sample collected would be representative of airborne radioactivity concentrations breathed by the workers in the laboratory. This condition existed on the date of the inspection and was believed to have existed from early 1984 to November 30, 1984. The Chemet Laboratory is a restricted area.

   This is a Severity Level IV violation (Supplement IV).

The General Electric Company written response to this item is being withheld pending the completion of a GE requested management meeting with the US-NRC Region II which is currently scheduled for March 13, 1985, in Atlanta.

2. 10 CFR 20.408(b) requires that when an individual terminates employment, the licensee shall furnish the NRC with a report of the individual's radiation exposure within 30 days after the exposure of the individual has been determined.

   Contrary to the above, the NRC was not furnished a termination exposure report

GENERAL ELECTRIC

> within the 30 day limit in that a worker terminated employment on July 26, 1984, the individual's exposure was determined on July 17, 1984 and the exposure report was furnished to the NRC on October 19, 1984.
>
> This is a Severity Level V violation (Supplement IV).

General Electric Company concurs with the violation as stated above.

Nine days prior to termination, the subject individual requested and received a copy of their exposure history within the 30-day reporting time limit required by 10 CFR 19.13(b).

When the individual terminated employment with General Electric on 7/26/84, the report furnished to the employee on 7/17/84 was not considered to be a final determination of exposure pursuant to 10 CFR 20.408(b) as the employee had the potential for further exposure/monitoring during the nine day time period between the requested report and termination. It is a rare occurrence that a person will request an exposure history just prior to termination and not have any additional exposure, an outstanding badge result, or a final whole body count before termination. However, this was not the case with the subject individual: the employee had no additional exposure or monitoring.

Since the NRC deemed the 7/17/84 employee requested report as a final determination, pursuant to 10 CFR 20.408(b) the termination exposure report was required within 30 days of termination (i.e., 30 days from 7/26/84). However, as GE-NFMD did not consider the 7/17/84 report as a final determination, within 90 days of termination a final determination of exposure was compiled and a termination exposure report furnished pursuant to 10 CFR 20.408(b).

In an effort to avoid future conflicts of this nature and as part of the on-going effort by GE-NFMD to upgrade compliance programs, GE-NFMD has fully implemented a computerized termination dose reporting program (as of year-end 1984) to provide termination reports as soon as the final monitoring information is available. As a result, if an individual's exposure ends several months prior

GENERAL ELECTRIC

to termination and all items necessary to make a final determination are available, a termination dose report will now be generated within 30 days of the termination date.

As this was an isolated incident and as a different termination reporting routine has been implemented, General Electric is now in full compliance.

CM Vaughan
:bsd

GENERAL ELECTRIC

WILMINGTON MANUFACTURING DEPARTMENT
GENERAL ELECTRIC COMPANY • P.O. BOX 780 • WILMINGTON, NORTH CAROLINA 28402

85 APR 12 A9:37

April 5, 1985

Mr. J. Philip Stohr, Director
Division of Radiation Safety & Safeguards
U.S. Nuclear Regulatory Commission, RII
101 Marietta Street, NW - Suite 2900
Atlanta, Georgia 30303

Dear Mr. Stohr:

Reference: (1) NRC License SNM-1097, Docket #70-1113
(2) NRC Inspection Report 70-1113/84-17 dated 1/31/85, received 2/5/85
(3) Letter, CM Vaughan to JP Stohr, 3/1/85

On March 1, 1985, in the General Electric Company response to the report of an inspection conducted at our licensed fuel fabrication plant by Mr. C. M. Hosey of your office on November 27-30, 1984, GE-NFMD requested that the first item of apparent noncompliance be held in abeyance pending a management meeting on 3/13/85 with the NRC in Atlanta. As committed during that meeting, GE hereby responds to the subject item as an attachment to this letter.

In your letter of January 31, 1985, you also indicated a concern regarding the implementation of our radiation protection program. General Electric does not concur with your assessment and, in fact, the Severity Level IV and Severity Level V violations also do not support any concern for the implementation of these programs.

General Electric does agree that a perception has been created that our Chemet Laboratory radiation protection program is not as sound as it actually is. This is the result of the extensive amount of inspection effort applied in the Chemet Laboratory, the fact that allegations regarding our operations have received extensive public attention, and the manner in which these allegations have been investigated.

General Electric has, however, applied considerable attention to the radiation protection program as it relates to the Chemet Laboratory and, in fact, taken a number of steps to make changes and improvements in that program. We are also continuing to look at other necessary upgrades to our radiation safety practices as

9pp

we have consistently done during our years of operation. Most recently the actions that we have taken related to the Chemet Laboratory are as follows:

- An all laboratory employee meeting were conducted to discuss Company and employee obligations in the radiation safety program, to review the radiation exposure history for those workers and to answer questions.
- Routine contamination surveys have been temporarily increased in the Chemet Laboratory to three times per week to provide an additional experience base for decision making.
- The number of locations tested for fixed and removable radiation during routine surveys have been temporarily increased.
- Selected procedures have been reworded to provide clarity in the requirements of the radiation protection program as applied to the Chemet Laboratory.
- Increased emphasis has been placed on minimizing external contamination of sample containers submitted to the laboratory.
- Laboratory personnel have been supplied with a go/no-go survey meter to augment their ability in cleaning spills immediately.
- The titration hood has been installed and is operational as was committed in the closeout meeting.
- The lighting improvement for the bulletin board has been installed as was committed in the closeout meeting.
- Signs have been posted at the exits specifying the survey requirement of personal articles removed from the controlled area.

General Electric appreciates your inspector's comments and suggestions related to public and employee health and safety. These comments and suggestions are helpful to us in our constant efforts to improve these programs, and ensure our compliance with

GENERAL ELECTRIC

the NRC regulations and license conditions. We also welcome further discussion with your staff on our reply, as neccessary, for further clarification.

Very truly yours,

GENERAL ELECTRIC COMPANY

Charles M. Vaughan

Charles M. Vaughan, Manager
Regulatory Compliance
M/C J26

CMV:bsd
Attachment
NSD-I

ATTACHMENT

The information given below is in response the first item of apparent noncompliance listed in NRC Inspection Report 70-1113/84-17, "Notice of Violation - Enclosure 1", dated 1/31/85.

1. 10 CFR 20.103(a)(3) requires the licensee to use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas.

   Contrary to the above, the licensee failed to use suitable measurements of concentrations of radioactive material in air in that air samplers in the Chemet Laboratory were not located where the sample collected would be representative of airborne radioactivity concentrations breathed by the workers in the laboratory. This condition existed on the date of the inspection and was believed to have existed from early 1984 to November 30, 1984. The Chemet Laboratory is a restricted area.

   This is a Severity Level IV violation (Supplement IV).

General Electric Company denies this alleged violation in that "suitable" measurements of concentrations of radioactive materials in air were and are being taken in the Chemet Lab per 10 CFR 20.103. Section 20.103(a)(3) states, in part:

"For purposes of determining compliance with the requirements of this section, (i.e., 40 MPC-hrs/wk and 520 MPC-hrs/qtr), the licensee shall use suitable

measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas and in addition, as appropriate, shall use measurements of radioactivity in the body or any combination of such measurements as may be necessary ...".

Two stationary air samplers are located in the Chemet Lab, one in the Wet Lab near the isotopic balance and one in the Spectrometer Lab near the metal impurities hood. Both are general work area samplers and are changed on an eight hour frequency per standard practice. Weekly averages of the Wet Lab results for 1979-1984 are shown in the attached figure. Slightly increasing trends can be noticed in the years 1980 and 1981 with concentrations rising to 5% of the MPC for insoluble uranium. An investigation indicated that improvements to the Wet Lab air handling and distribution system were warranted. Such improvements were made in late 1981. Since that time, air concentrations in the Lab have averaged about 2% of the MPC for insoluble uranium.

Routine urinalysis and lung counting of Chemet Lab employees demonstrate that the workers are not continuously exposed to unmeasured concentrations of uranium. Only 2% (~20 out of 1000) of the routine urinalysis results submitted by Chemet personnel in 1983 and 1984 were greater than 10 μg/liter. The minimum reported sensitivity for the laser fluorimetric assay is 5 μg of uranium per liter.

During 1983 and 1984 approximately 104 of the urine samples had results above the minimum sensitivity. If these results were caused by events generating significant airborne contamination, one would expect positive results for different individuals to be correlated in time. Samples by Chemet personnel are submitted at the end of the work week. However, since the Chemet Lab is a four-shift operation, the end of the week is not always Friday. Therefore, to perform temporal analyses, any positive results for different individuals that occurred within two days of each other (i.e., a 3-day window) were considered as a group.

The results of such group analysis are presented below:

	Occurrences of Positive Results	Random Occurrence Prediction*
Singularly	24	38
Paired	20	19
Three Together	7	6.4
Four Together	1	1.5
Five Together	1	0.3

*Using a Poisson distribution with a mean of 1.0 since 104 positive results occurred in 104 weeks.

Thus the pairing or grouping of results is less than or equal to the pairing or grouping that would be expected if the positive results were created by chance forces alone. There is a distinct lack of indication that employees are being exposed to large "puffs" of airborne radiation which would be expected to affect the results of two or more workers at the same time. In fact, the positive results have a statistical distribution very similar to the occurrence of "false positive" results that would be expected to show values just above the lower limit of detection of the laser fluorometric technique.

In the past two years, only one individual has had a result greater than 15 μg/liter, the NFMD action guide requiring assessment of intake. This individual's calculated intake was 0.46 mg, far less than the 2.7 mg daily intake limit for soluble uranium recommended in WASH-1251.

For the period of January 1982 to January 1985, routine lung counts (145 counts taken on 53 Chemet Lab workers) indicate that two individuals had results greater than MDL (75 μg U^{235}). Both were recounted the following quarter and had results less than MDL. An additional individual had a lung count greater than MDL. However, this exposure was received in an area other than the Wet Lab. Lung counts are recognized as not being sensitive enough to confirm eight hour SAS measurements. However, the collection of results does show that workers are not being chronically exposed to unmeasured levels of insoluble airborne uranium which would build up in their lungs over time.

After being informed at the NRC exit interview on 11/30/84 that the inspector intended to issue a notice of violation, General Electric initiated a special study as an overcheck of our air sampling program. Two additional air samplers were installed at strategic locations within the Wet Lab. To date, approximately 1000 eight-hour air samples have been collected. All of the weekly average air sample results have been $\leq 1 \times 10^{-12}$ μCi/cc.

A comparison of results of the additional samplers (SAS 404 and SAS 405) with the existing sampler (SAS 400) is shown below. This comparison indicates that previously reported concentrations are representative of those to which workers may be exposed in the Lab and easily demonstrate compliance to 10 CFR 20.103.

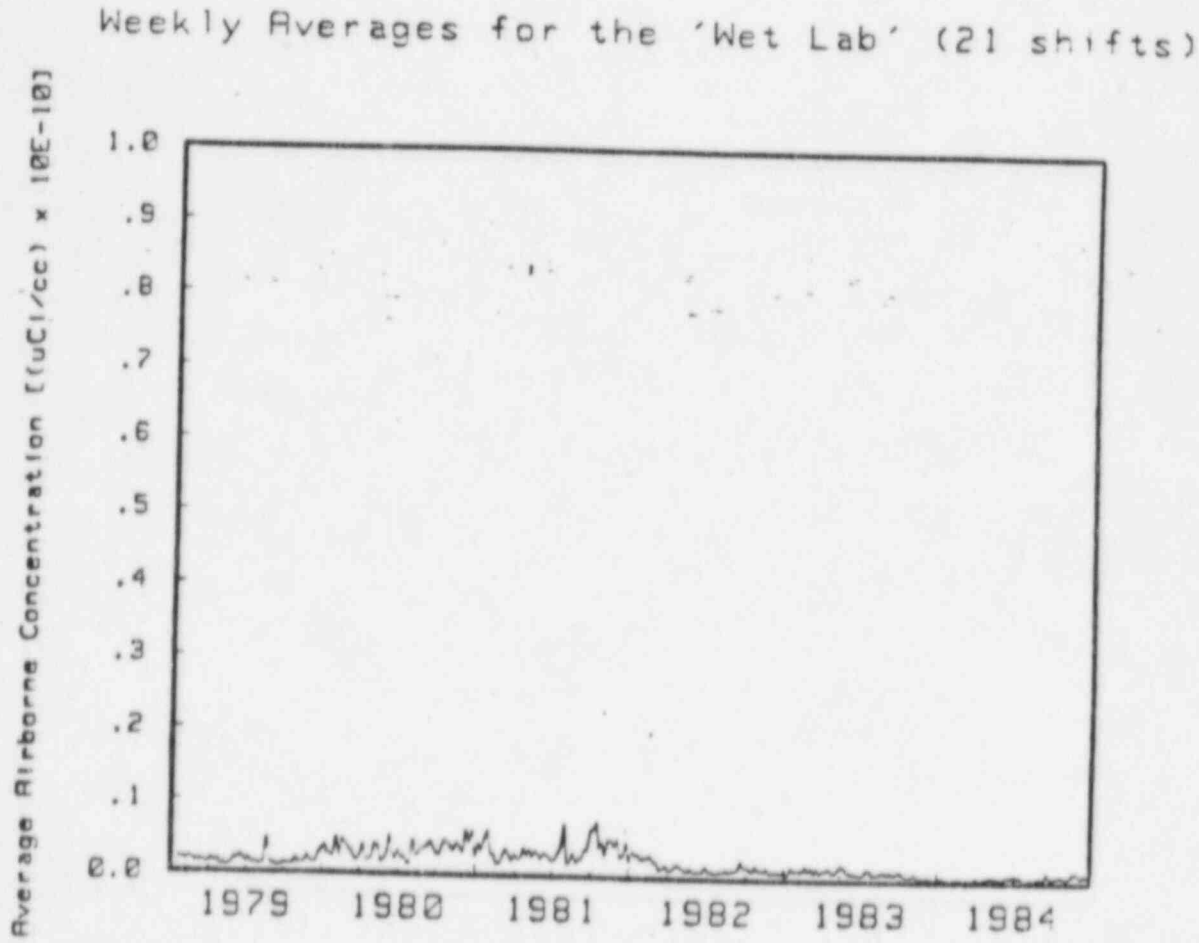
WEEKLY AIR SAMPLE AVERAGES
21 Samples/Week (3/Day, 7 Days/Week)

	$\times 10^{-11}$ μCi/cc		
	SAS 400 (Existing)	SAS 404 (New)	SAS 405 (New)
FW 49-84	0.1	0.1	0.1
FW 50	0.1	0.1	0.1
FW 51	0.1	0.1	0.1
FW 52	0.1	0.0	0.1
FW 01-85	0.1	0.0	0.1
FW 02	0.1	0.0	0.1
FW 03	0.0	0.0	0.1
FW 04	0.1	0.1	0.1
FW 05	0.1	0.1	0.1
FW 06	0.1	0.0	0.1
FW 07	0.1	0.0	0.1
FW 08	0.1	0.0	0.1
FW 09	0.1	0.0	0.0
FW 10	0.1	0.0	0.0
FW 11	0.1	0.0	0.1
FW 12	0.1	0.0	0.0
FW 13	0.1	0.0	0.0

In addition, an engineering evaluation of Chemet Lab air flow patterns was performed on December 3, 1984. Beside demonstrating that the two special samplers used for the study were properly located, these tests showed that significant horizontal dispersion occurs above the seven foot level as the air handling system rapidly cleared the test smoke from the area.

Clearly, air concentration measurements taken in the Lab have been "suitable" for determining compliance for exposure of individuals to concentrations of radioactive materials in air in the restricted area per 10 CFR 20.103. Therefore, following review of the preceding information, General Electric requests that the NRC withdraw the alleged violation.

WEEKLY AVERAGES - WET LAB
(21 SHIFTS)



GENERAL ELECTRIC

WILMINGTON MANUFACTURING DEPARTMENT
GENERAL ELECTRIC COMPANY • P.O. BOX 780 • WILMINGTON, NORTH CAROLINA 28402

85 APR 12 A9:37

April 5, 1985

Mr. J. Philip Stohr, Director
Division of Radiation Safety & Safeguards
U.S. Nuclear Regulatory Commission, RII
101 Marietta Street, NW - Suite 2900
Atlanta, Georgia 30303

Dear Mr. Stohr:

Reference: (1) NRC License SNM-1097, Docket #70-1113
(2) NRC Inspection Report 70-1113/84-17 dated 1/31/85, received 2/5/85
(3) Letter, CM Vaughan to JP Stohr, 3/1/85

On March 1, 1985, in the General Electric Company response to the report of an inspection conducted at our licensed fuel fabrication plant by Mr. C. M. Hosey of your office on November 27-30, 1984, GE-NFMD requested that the first item of apparent noncompliance be held in abeyance pending a management meeting on 3/13/85 with the NRC in Atlanta. As committed during that meeting, GE hereby responds to the subject item as an attachment to this letter.

In your letter of January 31, 1985, you also indicated a concern regarding the implementation of our radiation protection program. General Electric does not concur with your assessment and, in fact, the Severity Level IV and Severity Level V violations also do not support any concern for the implementation of these programs.

General Electric does agree that a perception has been created that our Chemet Laboratory radiation protection program is not as sound as it actually is. This is the result of the extensive amount of inspection effort applied in the Chemet Laboratory, the fact that allegations regarding our operations have received extensive public attention, and the manner in which these allegations have been investigated.

General Electric has, however, applied considerable attention to the radiation protection program as it relates to the Chemet Laboratory and, in fact, taken a number of steps to make changes and improvements in that program. We are also continuing to look at other necessary upgrades to our radiation safety practices as

~~8506220020~~ 9pp

3

we have consistently done during our years of operation. Most recently the actions that we have taken related to the Chemet Laboratory are as follows:

- An all laboratory employee meeting were conducted to discuss Company and employee obligations in the radiation safety program, to review the radiation exposure history for those workers and to answer questions.
- Routine contamination surveys have been temporarily increased in the Chemet Laboratory to three times per week to provide an additional experience base for decision making.
- The number of locations tested for fixed and removable radiation during routine surveys have been temporarily increased.
- Selected procedures have been reworded to provide clarity in the requirements of the radiation protection program as applied to the Chemet Laboratory.
- Increased emphasis has been placed on minimizing external contamination of sample containers submitted to the laboratory.
- Laboratory personnel have been supplied with a go/no-go survey meter to augment their ability in cleaning spills immediately.
- The titration hood has been installed and is operational as was committed in the closeout meeting.
- The lighting improvement for the bulletin board has been installed as was committed in the closeout meeting.
- Signs have been posted at the exits specifying the survey requirement of personal articles removed from the controlled area.

General Electric appreciates your inspector's comments and suggestions related to public and employee health and safety. These comments and suggestions are helpful to us in our constant efforts to improve these programs, and ensure our compliance with

the NRC regulations and license conditions. We also welcome further discussion with your staff on our reply, as neccessary, for further clarification.

Very truly yours,

GENERAL ELECTRIC COMPANY

Charles M. Vaughan

Charles M. Vaughan, Manager
Regulatory Compliance
M/C J26

CMV:bsd
Attachment
NSD-I

ATTACHMENT

The information given below is in response the first item of apparent noncompliance listed in NRC Inspection Report 70-1113/84-17, "Notice of Violation - Enclosure 1", dated 1/31/85.

1. 10 CFR 20.103(a)(3) requires the licensee to use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas.

   Contrary to the above, the licensee failed to use suitable measurements of concentrations of radioactive material in air in that air samplers in the Chemet Laboratory were not located where the sample collected would be representative of airborne radioactivity concentrations breathed by the workers in the laboratory. This condition existed on the date of the inspection and was believed to have existed from early 1984 to November 30, 1984. The Chemet Laboratory is a restricted area.

   This is a Severity Level IV violation (Supplement IV).

General Electric Company denies this alleged violation in that "suitable" measurements of concentrations of radioactive materials in air were and are being taken in the Chemet Lab per 10 CFR 20.103. Section 20.103(a)(3) states, in part:

"For purposes of determining compliance with the requirements of this section, (i.e., 40 MPC-hrs/wk and 520 MPC-hrs/qtr), the licensee shall use suitable

measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas and in addition, as appropriate, shall use measurements of radioactivity in the body or any combination of such measurements as may be necessary ...".

Two stationary air samplers are located in the Chemet Lab, one in the Wet Lab near the isotopic balance and one in the Spectrometer Lab near the metal impurities hood. Both are general work area samplers and are changed on an eight hour frequency per standard practice. Weekly averages of the Wet Lab results for 1979-1984 are shown in the attached figure. Slightly increasing trends can be noticed in the years 1980 and 1981 with concentrations rising to 5% of the MPC for insoluble uranium. An investigation indicated that improvements to the Wet Lab air handling and distribution system were warranted. Such improvements were made in late 1981. Since that time, air concentrations in the Lab have averaged about 2% of the MPC for insoluble uranium.

Routine urinalysis and lung counting of Chemet Lab employees demonstrate that the workers are not continuously exposed to unmeasured concentrations of uranium. Only 2% (~20 out of 1000) of the routine urinalysis results submitted by Chemet personnel in 1983 and 1984 were greater than 10 μg/liter. The minimum reported sensitivity for the laser fluorimetric assay is 5 μg of uranium per liter.

During 1983 and 1984 approximately 104 of the urine samples had results above the minimum sensitivity. If these results were caused by events generating significant airborne contamination, one would expect positive results for different individuals to be correlated in time. Samples by Chemet personnel are submitted at the end of the work week. However, since the Chemet Lab is a four-shift operation, the end of the week is not always Friday. Therefore, to perform temporal analyses, any positive results for different individuals that occurred within two days of each other (i.e., a 3-day window) were considered as a group.

The results of such group analysis are presented below:

	Occurrences of Positive Results	Random Occurrence Prediction*
Singularly	24	38
Paired	20	19
Three Together	7	6.4
Four Together	1	1.5
Five Together	1	0.3

*Using a Poisson distribution with a mean of 1.0 since 104 positive results occurred in 104 weeks.

Thus the pairing or grouping of results is less than or equal to the pairing or grouping that would be expected if the positive results were created by chance forces alone. There is a distinct lack of indication that employees are being exposed to large "puffs" of airborne radiation which would be expected to affect the results of two or more workers at the same time. In fact, the positive results have a statistical distribution very similar to the occurrence of "false positive" results that would be expected to show values just above the lower limit of detection of the laser fluorometric technique.

In the past two years, only one individual has had a result greater than 15 μg/liter, the NFMD action guide requiring assessment of intake. This individual's calculated intake was 0.46 mg, far less than the 2.7 mg daily intake limit for soluble uranium recommended in WASH-1251.

For the period of January 1982 to January 1985, routine lung counts (145 counts taken on 53 Chemet Lab workers) indicate that two individuals had results greater than MDL (75 μg U^{235}). Both were recounted the following quarter and had results less than MDL. An additional individual had a lung count greater than MDL. However, this exposure was received in an area other than the Wet Lab. Lung counts are recognized as not being sensitive enough to confirm eight hour SAS measurements. However, the collection of results does show that workers are not being chronically exposed to unmeasured levels of insoluble airborne uranium which would build up in their lungs over time.

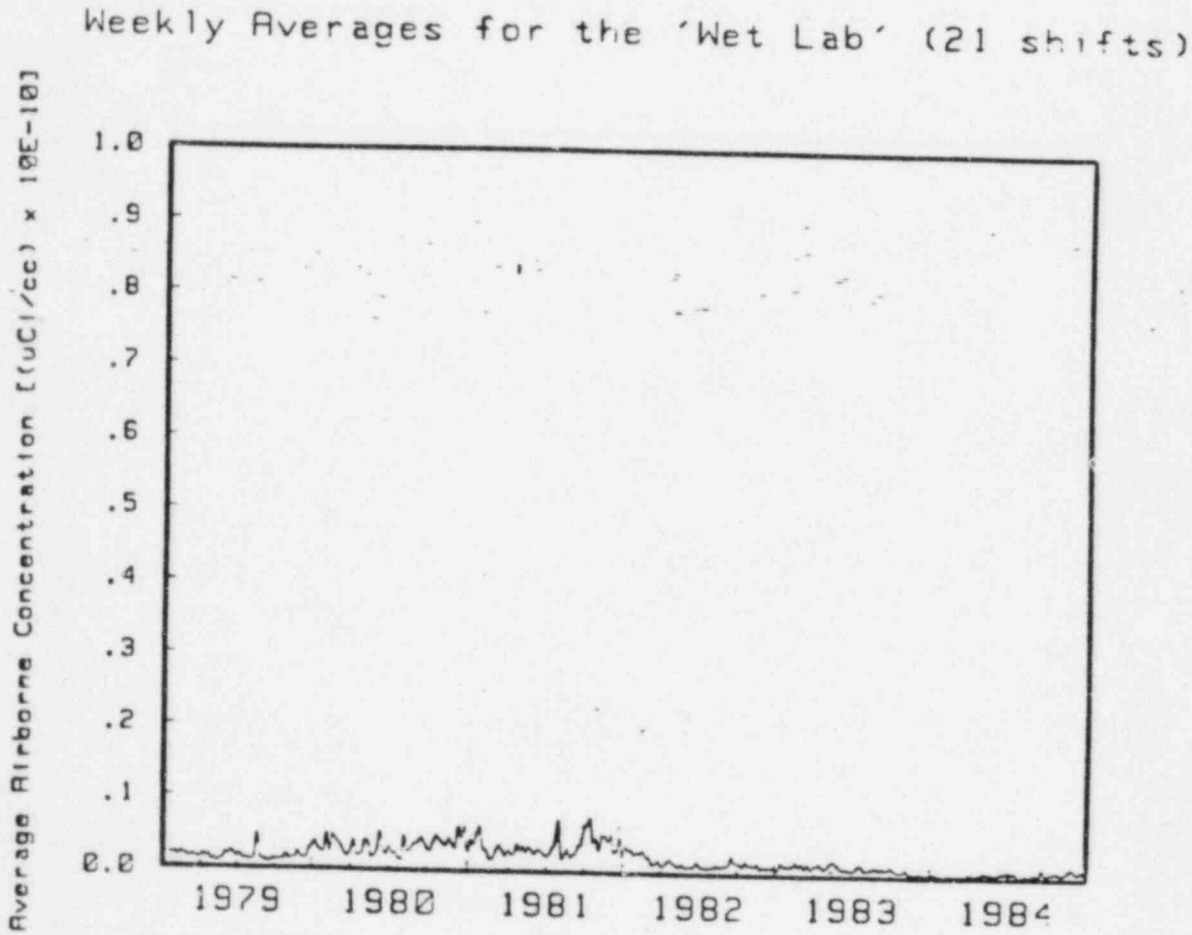
After being informed at the NRC exit interview on 11/30/84 that the inspector intended to issue a notice of violation, General Electric initiated a special study as an overcheck of our air sampling program. Two additional air samplers were installed at strategic locations within the Wet Lab. To date, approximately 1000 eight-hour air samples have been collected. All of the weekly average air sample results have been $\leq 1 \times 10^{-12}$ μCi/cc.

A comparison of results of the additional samplers (SAS 404 and SAS 405) with the existing sampler (SAS 400) is shown below. This comparison indicates that previously reported concentrations are representative of those to which workers may be exposed in the Lab and easily demonstrate compliance to 10 CFR 20.103.

WEEKLY AIR SAMPLE AVERAGES
21 Samples/Week (3/Day, 7 Days/Week)

	$\times 10^{-11}$ μCi/cc		
	SAS 400 (Existing)	SAS 404 (New)	SAS 405 (New)
FW 49-84	0.1	0.1	0.1
FW 50	0.1	0.1	0.1
FW 51	0.1	0.1	0.1
FW 52	0.1	0.0	0.1
FW 01-85	0.1	0.0	0.1
FW 02	0.1	0.0	0.1
FW 03	0.0	0.0	0.1
FW 04	0.1	0.1	0.1
FW 05	0.1	0.1	0.1
FW 06	0.1	0.0	0.1
FW 07	0.1	0.0	0.1
FW 08	0.1	0.0	0.1
FW 09	0.1	0.0	0.0
FW 10	0.1	0.0	0.0
FW 11	0.1	0.0	0.1
FW 12	0.1	0.0	0.0
FW 13	0.1	0.0	0.0

In addition, an engineering evaluation of Chemet Lab air flow patterns was performed on December 3, 1984. Beside demonstrating that the two special samplers used for the study were properly located, these tests showed that significant horizontal dispersion occurs above the seven foot level as the air handling system rapidly cleared the test smoke from the area.

Clearly, air concentration measurements taken in the Lab have been "suitable" for determining compliance for exposure of individuals to concentrations of radioactive materials in air in the restricted area per 10 CFR 20.103. Therefore, following review of the preceding information, General Electric requests that the NRC withdraw the alleged violation.

WEEKLY AVERAGES - WET LAB
(21 SHIFTS)