



General Electric Company  
Castle Hayne Road, Wilmington, NC 28402

October 10, 1989

US Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Subject: REPLY TO NOTICE OF VIOLATION

Reference: (1) NRC License SNM-1097, Docket 70-1113  
(2) NRC Inspection Report 70-1113/89-05 dated 7/27/89, received 7/31/89  
(3) Time Extension for Reply to a Notice of Violation, NRC letter dated August 28, 1989  
(4) Management Meeting at GE, August 1, 1989  
(5) Management Meeting Summary dated August 24, 1989

GE Nuclear Energy is responding to the Notice of Violation resulting from the inspection conducted at our licensed fuel fabrication plant by Messrs. G. B. Kuzo, C. H. Bassett, and M. T. Lauer of your office on May 22-26, June 12-15, and June 23, 1989. The response includes information reviewed and discussed at the Management Meeting on site August 1, 1989.

Our reply to the items of apparent noncompliance with NRC requirements is given in the attachment to this letter.

We appreciate the NRC's approval of our extension of time to respond so that we could take full advantage of the NRC's input along with the detailed information derived from our investigation. These comments and suggestions are helpful to us in our constant efforts to improve these programs, ensure the continued health and safety of plant personnel, 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, if necessary.

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

Sincerely,

GE NUCLEAR ENERGY

T. Preston Winslow, Manager  
Licensing & Nuclear Materials Management

cc: Stewart D. Ebnetter  
Region II

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ATTACHMENT 1

The information given below refers to the items in Enclosure 1, "Notice of Violation", from NRC Inspection Report 70-1113/89-05 dated July 27, 1989.

- A. 10 CFR 20.201(b) requires each licensee to make or cause to be made such surveys as (1) may be necessary for the licensee to comply with the regulations in 10 CFR 20 and (2) are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present.

10 CFR 20.201(a) defines a survey to mean an evaluation of the radiation protection hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions. When appropriate, such evaluation includes a physical survey of the location of materials and equipment, and measurements of levels of radiation or concentrations of radioactive materials present.

10 CFR 20.103(a)(3) requires the licensee for purposes of determining compliance with the requirements of this section, to use suitable measurements of concentrations of radioactive materials in air for detecting and evaluating airborne radioactivity in restricted areas and in addition, as appropriate, to use measurements of radioactivity in the body, measurements of radioactivity excreted from the body, or any combination of such measurements as may be necessary for timely detection and assessment of individual intakes of radioactivity by exposed individuals.

Contrary to the above, licensee surveys were inadequate in that on October 18, 1988, for two contract personnel installing Heating Ventilation Air Conditioning (HVAC) Management and Control System equipment in the overhead and on the recirculation fan platforms located above the Slugger areas, the licensee did not conduct

physical surveys of the work location, materials, and equipment, nor did the licensee make adequate measurements of concentrations of radioactive material in the air for detecting and evaluating airborne radioactivity hazards present.

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

**GE Response:**

General Electric concurs with Violation A; however, we believe it should have been categorized as a Licensee Identified Violation pursuant to 10 CFR Part 2, Appendix C, Section V(G). Pursuant to this criteria:

- a) The situation was identified by GE. It was classified, investigated, documented, and corrected per internal procedures. In fact, it was the open and thorough nature of the internal investigation report that brought the incident to the attention of the NRC inspector.
- b) Inspection Report 89-05 categorizes the occurrence as a Severity Level IV violation.
- c) Reporting to the NRC was not required.
- d) Prompt, immediate, and thorough corrective actions were taken including the identification of root causes. Until corrective actions were completed, all similar work in normally unaccessed areas was suspended pending a case-by-case review and authorization by the radiation safety function. Corrective actions included:
  - 1) Development and implementation of a checklist for selected work areas (i.e., overhead work) that includes air sampling and bioassay requirements.
  - 2) Modifications to radiation work permit (RWP) issuance and control requirements.
  - 3) Modifications to RWP worker training requirements.
  - 4) The addition of radiation protection personnel focused on day-to-day coverage of RWP activities.

All corrective actions were completed within 130 days from the date of the incident and have proven to be effective.

- e) There had been no previous violations of a similar nature for which corrective actions were taken that would have been expected to preclude this incident.

It is true there were intakes of soluble uranium on September 1 and October 6, 1988. In both cases the intakes determined from urinalysis results and intakes determined from the normal air sampling program were a fraction of an MPC-hr. The workers reported time-in-area in a sub-area of the overall chemical area, an area where exposure to soluble uranium does occur. The workers involved submitted resamples, the action required by procedure for urinalysis results in excess of 35 µg/l. No investigation was performed since there was no indication during the September 1 - October 6 period that a special investigation was warranted nor were there additional procedural requirements for action.

In the October 18 incident investigation, worker intakes for September 1 and October 6 were included in the determination of root cause and correction action. It was not until this time that a pattern was established for similar individuals performing similar work in a similar plant location. The September 1 and October 6 intakes in and of themselves were small, reasonable and normal. The October 6 revision of the RWP was a conservative step to minimize exposure to soluble uranium, i.e., done for ALARA reasons. Thus the October 18th incident "was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation" because no previous condition would have in any way constituted a violation.

In discussing these issues, there appears to be some suggestion on the NRC's part that the urine samples were collected by chance, that values were calculated incorrectly and that more people should have been evaluated.

Many of our urinalysis program samples come from formally prescribed routines, however, our training also alerts workers to the fact that measurements and exposure related samples may be self-initiated at any time, and that at any time they have concerns they are to bring them to the attention of their supervision or Regulatory Compliance personnel. The training was effective with these workers.

Initial assessments of intakes for the two individuals involved, made from bioassay measurements, were expressed in terms of milligrams of soluble uranium to assess the potential for kidney

damage. Subsequent to this during a follow-up phone call with the NRC, the intakes in milligrams were quickly and conservatively converted to MPC-hrs to demonstrate that the magnitude of the intakes were less than the 40 MPC-hr weekly limit for soluble uranium. Later when the ratio of soluble to insoluble uranium and other data were better known, the calculations were refined to yield better (and lower) estimates of total intake.

The scope of the investigation was also questioned by the NRC. We believed that a proper investigation had been done. The inspector felt that the efforts should have been extended to more people. We looked at the added people and found no evidence whatever to indicate that our initial decision was in error.

Therefore, the violation should be re-categorized as a Licensee Identified Violation (LIV).

In addition to the corrective actions taken to address the licensee identified situation, we are evaluating several suggestions for program improvement. The major items being evaluated are: (1) an improved capability to assure compliance to the 40 MPC hour limit for soluble uranium during any seven consecutive days, (2) a restructuring of our action guides/action levels which more clearly communicates our intent and improves worker protection, and (3) ways to better highlight unexpected/unusual exposure results for followup. We expect to have completed our evaluation and made decisions on any additional changes to our program by December 1989.

- B. Part I, Section 3.2.4.2.1 of the licensee's Application for License No. SNM-1097 requires the radiation safety function to evaluate annually, and following process and equipment changes, fixed filter sampling points for representativeness of personnel exposures.

Contrary to the above, from 1986-1989, the licensee failed to conduct adequate evaluations to demonstrate fixed filter sampling point representativeness, annually and following process or equipment changes.

This is a Severity Level 1 IV violation (Supplement IV).

**GE Response:**

General Electric accepts that the documentation for demonstrating the representativeness of fixed air samples for 1986, 1987, and 1988 was arguably not adequate to demonstrate to the inspector that we had complied with the license requirements; although it remains our position that we had in fact complied with the requirements for representative air samples.

GE's program to demonstrate representativeness was implemented in 1985. At that time, there was no established NRC protocol or guidance for conducting or documenting such a study. Such guidance has yet to be issued and there remain differences of opinion throughout the radiation protection community as to the proper techniques/procedures to be used.

In the absence of any official guidance, a program was developed and performed using two methods - detailed air flow studies for each sample point and comparisons of derived worker lung burdens based on air sample data to actual measured lung burdens for workers. The program definition and initial evaluations, including documentation, involved approximately six man months of effort.

Since 1985, additional studies have been performed on an annual basis. The level of effort and degree of documentation have been less than were provided in the initial work because the task had become one of re-verifying many of the original conclusions rather than regenerating a "new" evaluation each year since many of the evaluated conditions remain unchanged from those in 1985. It is noteworthy that air sample program improvements have been made, including sample head relocations and/or modifications to the airborne assignment calculational methods, as a result of each additional study. The program is therefore working, with air sampling representativeness being managed effectively.

GE's methods and documentation for performing representativeness studies were reviewed by the NRC in 1985 and 1987 and during those evaluations no violations were identified.

Notwithstanding the above, GE is making improvements to the 1989 representativeness study documentation. Additional information will be included in this year's study to facilitate NRC inspection. This information will include:

- Documentation showing current fixed head sample locations on floor plan layouts
- A listing of specific work areas reviewed along with the names of individuals performing the air flow studies
- The results (written or visual media) of additional air flow studies from the use of smoke bombs in selected areas. These areas have been identified by the Radiation Safety function based on major process or equipment modifications made since the 1985 detailed air flow studies.
- Recommendations for improvement of the air sampling program representativeness, where called for.

This year's study with the additional documentation is scheduled to be completed by November 30, 1989.

Documentation improvements are also being made with respect to the methods used to compare worker assigned airborne exposure with measured lung burden information. The calculational methods and approaches are being incorporated into the REMTRAC computer recordkeeping system. This will facilitate management controls and consistency of calculational results. As a part of incorporating these improvements in REMTRAC, the modeling assumptions used to compute lung contents from assigned airborne exposures have now been formally documented. The REMTRAC programming changes are scheduled for completion by December 31, 1989.

Full compliance will be achieved with the completion of the above described corrective actions, December 31, 1989.

As a result of our investigation, we have determined that Violations C and D are, in substance, the same violation to which the same root causes and most elements of corrective action apply. Therefore, the two violations will be stated and addressed as one.

- C. License Condition Number (No.) 9 of Special Nuclear Material (SNM) License No. 1097 requires that licensed material be used in accordance with statements, representations, and conditions of Part I of the License Application dated October 23, 1987.

Part I, Section 2.2.1.4 of the licensee's Application for License No. SNM-1097 [Note: This is an incorrect reference. The NRC apparently intended to cite Section 2.7.1] requires that radiation protection function activities be conducted in accordance with written procedures.

1. Nuclear Safety Release/Requirements (NSR/R) No. 85.04, General Controlled Area Rules, Revision (Rev.) 7, dated April 26, 1988, requires the use of a (1) yellow and magenta rope or tape, and yellow and magenta signs displaying various warnings or protection requirements (Example: full face mask required) and/or a (2) flashing yellow light to alert personnel to conditions causing a high airborne contamination area.

Contrary to the above, the licensee failed to follow procedures for alerting personnel to conditions causing high airborne contamination areas on May 25, 1989, in that: (1) a location in the Slab Blender area was barriered off with yellow and magenta tape but was not posted with the yellow and magenta signs displaying warnings or protection requirements; and (2) a location between the Number (No.) 3 and No. 4 Chemical Area Calciners, posted on one side as an airborne radioactivity area and containing contaminated No. 3 Slugger parts with highest smearable contamination levels of 50,887 disintegrations per minute per 100 square centimeters (dpm/100 cm<sup>2</sup>), was not barriered off properly with the barrier rope suspended completely around the designated areas.

2. NSR/R No. 85.05, Protective Clothing Rules, Rev. 4, dated August 13, 1987, requires that only authorized personnel wearing appropriate protective clothing/equipment are permitted within a marked-off contaminated area and also that head coverings are worn and cover all hair possible. Posted instructions at the entrance to the Controlled Area stipulate that working and observation personnel wear a cap covering all hair.



Contrary to the above, the licensee failed to follow procedure for use of protective clothing in that: (1) on May 23-25, 1989, an estimated ten (10) of 100 personnel observed in the Controlled Area wore their caps in a manner that did not cover all the hair possible; (2) on June 13-14, 1989, nine of 100 personnel observed in the Controlled Area wore their caps in a manner that did not cover all hair possible; and (3) on June 14, 1989, an individual entered beneath the V106 tank, posted as a Controlled Surface Contamination Area, without wearing any protective clothing.

3. Practices and Procedures (P/P) No. 40-22, Respiratory Protection Program, Rev. 1, dated March 23, 1988, Appendix B, Step A.2 and Step 5 require (1) the individuals return respirators to designated storage areas or Controlled Area laundry when the immediate use/need is fulfilled and (2) that used respirators are not to be left in the Controlled Area from one shift to another but should be placed in the "dirty mask" receptacles or returned to the laundry.

Nuclear Safety Instruction (NSI) No. O-1.0, Respiratory Protection - Training and Fitting, Rev. 15, dated March 8, 1989, requires individuals to return respirators to designated storage areas when the immediate use/need is fulfilled.

NSR/R No. 85.06, Face Mask Rules, Rev. 5, dated April 20, 1988, requires that respirators not be left on equipment and/or tool boxes when no longer needed.

Contrary to the above, the licensee failed to follow procedures for respirator storage in that respirators were noted in the following unauthorized locations: (1) on May 23, 1989, an unwrapped (used) respirator placed on a bucket in the Slab Blender area, and two poly-wrapped (unused) respirators placed

inside a fire hose station cabinet in the Uranium Recovery Unit (URU) area; (2) on May 25, 1989, one used respirator placed on the work stand opposite the control panel in the Slab Blender area, and one unused respirator placed inside an area barriered off and posted as requiring a full face respirator near the partially disassembled No. 3 Slugger; (3) on June 13, 1989, a used respirator placed inside a cardboard box underneath rags and other pieces of cardboard behind Hammermill No. 6, a used respirator placed on top of an electrical control panel in front of Hammermill No. 3, two unused half-face respirators placed in the walkway of Hammermill No. 2, and an unused respirator placed in the drawer of a workstation desk beside Slugger/Granulator No. 5; (4) on June 14, 1989, a used respirator placed on a can in the Slab Blender area, and a used respirator placed on a control panel near Hammermill No. 3; and (5) on May 23, and June 14, 1989, used respirators in the Slab Blender area not returned to the "dirty mask" receptacles or returned to the laundry between shift changes.

4. NSR/R No. 85.08, Personnel Survey Leaving Controlled Area, Rev. 7, dated December 8, 1986, requires that personal surveys be conducted by placing the scanner probe on an area to be surveyed, holding the probe in place for one to two seconds and monitoring the hands, wrists, chest, TLD badge, neck, face, hair, ankles, and shoes at a minimum.

Contrary to the above, the licensee failed to follow required personal survey procedures resulting in inadequate surveys in that: (1) on May 23, 1989, of two people observed exiting the UO<sub>2</sub> Conversion Controlled Area and one person observed exiting the URU Controlled Area, all three persons moved the probe too rapidly and did not hold the probe in place for the required one to two seconds; and (2) on May 25, 1989, of 22 people

observed exiting the UO<sub>2</sub> Conversion Controlled Area six moved the probe too rapidly and/or did not survey all designated areas; (3) on June 13, 1989, three of nine individuals observed exiting the UO<sub>2</sub> Conversion Controlled Area moved the probe too rapidly or did not survey all designated areas; (4) on June 14, 1989, three of six workers observed exiting the UO<sub>2</sub> Conversion and the URU Controlled Areas moved the probe too rapidly and/or did not survey all designated areas; and (5) on June 14, 1989, an individual observed exiting the controlled area established beneath the V106 Tank did not perform a personal contamination survey subsequent to leaving the area.

5. Practices and Procedures (P/P), 40-22, Respiratory Protection Program, Rev. 5, dated March 22, 1988, details cognizant managers as responsible for scheduling respiratory protection training and REMTRAC data entry, and the Nuclear Safety Engineering Section as responsible for issuing REMTRAC Status Reports for Fitting/Training status and providing periodic respiratory protection training.

Contrary to the above, as of May 26, 1989, thirteen (13) individuals were overdue their annually scheduled Self-Contained Breathing Apparatus (SCBA) training, as noted by the REMTRAC Status Report dated March 24, 1989.

6. NSR/R Control No. 4.1.16, Respiratory Testing, Rev. 0, dated January 21, 1982, requires that full-face masks not used after thirty (30) days be returned to the laundry for reinspection.

Contrary to the above, the licensee failed to follow procedures in that unused respirators placed in a storage cabinet in the URU area on April 24, 1989, had not been returned to the laundry after 30 days for reinspection.

7. NSR/R Control No. 1.1.26, Empty Can Storage - FMO, Rev. 2, dated June 3, 1987, requires that empty cans must have a lid and lock ring in place and that empty cans must be free of visible contamination.

Contrary to the above, the licensee failed to follow procedures for empty can storage in that: (1) on June 13, 1989, nine cans placed in four separate locations of the B&W Blender Area did not have lids and/or lock rings in place and one had visible powder in the bottom, one can located behind Slugger No. 5 had no lock ring in place, approximately ten cans in the Radwaste hallway leading to the Old Decontamination area had no lock ring in place, and one can located in the Stacker Warehouse had no lid or lock ring in place; and (2) on June 14, 1989, two cans located in the B&W Hammermill area had no lock rings in place.

8. P/P No. 40-22, Respiratory Protection Program, Rev. 5, dated March 23, 1988, requires Plant Medical personnel to determine that an individual is medically capable to wear a respirator and annually reevaluate this determination.

The criteria listed in Appendix D of the Cotton Dust Standard as found in the Federal Register, Volume 43, Number 122, dated June 23, 1978, is used by the licensee to determine if a person is medically capable of wearing a respirator. Appendix D requires that at least three forced expirations be carried out by the personnel being tested to demonstrate acceptability to wear a respirator. Appendix D also lists the criteria used to determine when a person is not allowed to wear a respirator or when the person should be retested to verify acceptability. One of the criteria is an excessive variability, greater than 10 percent, between the two largest forced vital capacity (FVC) measurements and forced expiration volume in one second (FEV1) measurements.

Contrary to the above, the licensee failed to follow procedures for determining if a person is medically capable to use a respirator in that, for medical records reviewed on June 14, 1989, one individual completed only two forced expirations and for another individual a variation greater than 10 percent was recorded between the two largest FCV's and FEV1's.

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

- D. License Condition No. 9 of SNM License No. 1097 requires that licensed material be used in accordance with statements, representations, and conditions of Part I of the License Application dated October 23, 1987.

Part I, Section 2.2.1.4 of the licensee's Application for License No. SNM-1097 [Note: This is an incorrect reference. The NRC apparently intended to cite Section 2.7.1] requires that radiation protection function activities be conducted in accordance with written procedures.

NSI No. O-6.0, Contamination Measurement and Control, Rev. 19, dated June 7, 1988, Appendix C, requires that smearable contamination in excess of 10,000 dpm/100 cm<sup>2</sup> alpha or visible contamination on floors and 25,000 dpm/100 cm<sup>2</sup> alpha on controlled area equipment, be cleaned immediately.

Contrary to the above, radiation protection activities were not conducted in accordance with written procedures in that: (1) during June 13-14, 1989, visible contamination was observed on FMO Powder Warehouse railings and floor areas and a NRC requested contamination survey indicated maximum contamination levels of 30,000 dpm/100 cm<sup>2</sup> on railings and selected equipment in the area; and (2) on May 25, 1989, NRC requested contamination surveys of the No. 3 Slugger equipment parts, which had been maintained in the Controlled Area for several days, indicated maximum smearable contamination levels of 60,000 dpm/100 cm<sup>2</sup>.

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

**GE Response:**

GE concurs with Violation C in that the examples and frequencies of personnel not following internal procedures were not indicative of the level of attention to detail which we expect of our employees, supervision, and managers.

With regard to Violation D, GE concurs that a violation did exist relative to the example of visible contamination of powder on the floor and railings in the FMO Powder Warehouse June 13 & 14, in that NSR/R 1.1.8 requires that "...spills and accumulations of powder must be cleaned up as soon as practical, and no later than end of the shift". There was no violation or problem related to the application of NSI O-6.0 and the No. 3 slugger work was handled correctly except that a barrier required by procedure was not adequately maintained throughout the job.

For the FMO Powder Warehouse situation cited in Violation D, NSI O-6.0 was followed correctly. On 6/14 at approximately 2 p.m., the contamination survey requested by the NRC indicated levels of removable contamination as high as 30,000 dpm/100 cm<sup>2</sup> in the FMO powder warehouse. Shop Operations management was notified and initiated cleanup actions, including, by procedure, a commitment at the time of the notification by the responsible individual to clean the contaminated area on a top priority basis. Arrangements were made to have a press dump operator work into the following shift and the area was cleaned within four hours.

However, in this example related to the FMO Powder Warehouse, GE agrees with the inspector's finding that visual contamination observed on June 13, 1989, in the FMO Powder Warehouse and confirmed on June 14, 1989, was not cleaned up as required. For this finding, our personnel did indeed fail to comply with internal procedure NSR/R 1.1.8, Rev. 3, which requires that spills and accumulations of powder must be cleaned up as soon as practical, and no later than the end of the shift.

For the example involving the No. 3 Slugger press, NSI O-6.0 requires either cleanup or the establishment of a contamination control area for areas exceeding prescribed contamination levels. As stated in the inspection report, page 30, "...the area was required to be barriered-off and posted...". This had been performed for the purpose of establishing a contamination control

area for the items with contamination above the prescribed action level. (See Violation C.1). Because the slugger press had been disassembled just the previous day and actions taken to barrier and post, and also because the parts were to be reassembled within a short time, decontamination to less than contamination action limits was not warranted.

It is not the intent nor are routine Radiation Protection survey frequencies established to ensure complete absence of contamination above prescribed limits in all areas at all times. However, when contamination levels are identified by Radiation Protection which exceed prescribed levels, appropriate corrective actions are taken.

Our investigation of the alleged violations cited, and our own observation, lead us to the conclusion that certain lapses in management/supervisory functionality, employee attitudes, employee training, and employee discipline have occurred. These are all unintended byproducts of recent cultural changes in our business, which have seen us move to a significantly smaller, and much more self-directed workforce.

In reference to corrective action, most importantly, the management and staff at the Wilmington site have recognized that there is a problem which must be corrected and have accepted ownership for it. The problem is highly complex and will be addressed in total for the entire site which should make the long term fix effective.

Near term, a number of actions have been completed. Some address the overall root cause, while some address limited weaknesses that our investigation indicated needed improvement. The list is as follows:

- 1) The new Manager, NF&CM, has issued a personal letter to all employees stressing the importance of following procedures and stating his expectation in this regard.
- 2) The Manager, NF&CM, has conducted all-employee meetings in workable size groups over a one week period. In these sessions, he has outlined his operating philosophy, emphasizing the importance of compliance and quality, and making it very clear that he expects procedures to be followed.

- 3) Roundtable meetings have been conducted with GE and contractor employees covering NRC procedural violation findings and stressing the necessity for following established procedures.
- 4) Shop management has begun to institute self-audits to NSR/R requirements by individuals designated on a monthly basis for the primary production areas. By the end of October, the audits will be performed during each shift of operation for each primary production area. The self-audits will be continued as long as they are effective toward providing full personnel compliance to the area nuclear safety requirements. Longer term, we expect that the improved functionality of supervision and management in the new environment will replace this formal audit routine.
- 5) Nuclear Safety Release/Requirement (NSR/R) No. 85.04, "General Controlled Area Rules", was revised and reissued on 8/16/89 to more clearly indicate the proper use of barrier ropes within airborne controlled areas. In addition, the importance of properly roping off special contamination control areas has been re-emphasized to Operations and Radiation Protection personnel.
- 6) The thirteen individuals identified during the inspection as being overdue for SCBA training have either been trained or been formally re-evaluated as no longer requiring the training.
- 7) The previous Manager, Regulatory Compliance, was contracted to perform a study of the issues raised by the inspection report, and recommend further responses to the information contained in it.
- 8) Respirator capacity testing records were reviewed for another 110 employees. Based on these reviews and the initial ten reviewed by the NRC, only three were found to deviate from the Appendix D Cotton Dust Standard established as a guideline for our medical test of respirator users. A retest or review of the test results by the Medical Director has shown that all three meet the necessary medical requirements to wear a respirator. To preclude a recurrence, nurses performing pulmonary tests have been instructed to notify the Medical Director of any test not meeting the guidelines for his determination of whether individuals are to be retested or passed for respirator use without retesting.



It is clear from the elements of the root causes that correction of the problem must come from a long-term program that is fully integrated within the business activities and objectives. Even though the entire long term program definition is not complete, much work is already in progress. The following is a summary of work that is currently in progress:

- 1) Program planning for 1990 is currently in process including one of our top priority programs which addresses tasks and resources to upgrade our performance quality (Quality-Compliance-Safety). The Managers of Quality and Regulatory Compliance are spearheading this integrated business effort.
- 2) Initial development of a focused communication program which will reinforce management's expectation of and commitment to quality performance specifically including procedural compliance.
- 3) A number of teams are already addressing selected procedures so as to identify necessary or desirable changes to both clarify valid requirements and eliminate unnecessary or senseless ones.
- 4) Approaches to further adapt the functions of supervision and management to the changed workforce and business culture are being evaluated.
- 5) New training approaches and resources are being examined for applicability and effectiveness.
- 6) Our discipline and employee management procedures and routines are being reviewed so as to identify changes needed to make them more effective and fully compatible with the quality performance expectations.
- 7) We are evaluating better ways to utilize the day-to-day information that is reported by our Radiation Protection function and looking at changes in their reporting functions and formats that would be more helpful to our daily management for quality performance.
- 8) We are modifying REMTRAC to better track training status. Reports reflecting overdue training in each functional management area will be provided to the responsible Staff Manager, including the Manager, NF&CM, as appropriate (estimated implementation 12/1/89).

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The thrust of the corrective actions identified addresses all elements of what we discern to be the root cause. The precise elements/actions of the corrective action program are expected to be completed by 12/31/89. Implementation of the corrective actions is currently expected to require most of 1990, even though continuous progress will be observed throughout the year.

GE Nuclear Energy expects that improvements will result in our being in full compliance by the end of 1990.

As indicated the corrective action program will be completely formulated by the end of December, 1989. Therefore, if there are areas where the NRC questions whether we have addressed and/or if more details are needed, we would propose considering a management meeting in Atlanta or Wilmington in early January to review our progress and further details of our program at that time.