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70-1113

GE Nuclear Energy

General Electric Company
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910 675 5000

November 22, 1996

Mr. M. A. Lamastra
Licensing Branch, NMSS
U.S. Nuclear Regulatory Commission
Mail Stop T 8-D-14
Washington, D.C. 20555-0001

Subject: Additional Information Supporting Environmental Assessment and Fire Protection for Renewal of SNM-1097

References:
(1) SNM-1097, Docket 70-1113
(2) License Renewal & Letter, R. J. Reda to E. Q. Ten Eyck, 4/5/96
(3) Letter with Enclosures, M. A. Lamastra to R. J. Reda, 10/2/96

Dear Mr. Lamastra:

Pursuant to the above referenced letter dated 10/2/96, GE's Nuclear Energy Production (NEP) facility in Wilmington, N. C. hereby transmits the enclosed information regarding our environmental assessment and fire protection programs. This information provides our response that you indicated would be needed to facilitate and complete the subject review.

Six copies of our response are being provided for your review. An additional copy is being sent to Region II.

Please contact me on (910) 675-5889 or Charlie Vaughan on (910) 675-5656, if you would like to discuss this matter further.

Sincerely,

J. L. Embley for

R. J. Reda, Manager
Fuels and Facility Licensing

NF04 1/1

enclosure

cc: RJR-96-132

EA1. *For all solid and liquid wastes shown on Exhibit C-7 of the 1996 Supplement, indicate the approximate quantities generated per year, the approximate quantities in storage at the site, and the storage locations. Provide an estimate of the amounts of solid and liquid waste materials expected to be generated by the dry conversion process, and describe how they will be managed, i.e., treatment, storage, and disposal.*

**The following discussion relates to the nuclear waste bearing components of Exhibit C-7 as referenced above and discusses both the ADU Process and the Dry Conversion Process including comparisons of the two in relation to the waste management at the facility.**

**Hydrofluoric Acid**

**The current ADU process removes all the fluoride from the UF6 feed materials. This is done in precipitation, de-watering and hydrolysis and in the calcining operations. The hydrogen fluoride (HF) is converted to ammonium fluoride and is resident in the process water with an annual volume of typically 83,000 cubic meters/year. This liquid is referenced as Fluoride Waste Liquid and is treated at the Waste Treatment Facility where it is neutralized and the fluoride complexed with calcium to reduce the chemical discharge levels to those authorized by the site permits. In doing this approximately 986,000 kg/year calcium fluoride is also generated.**

**The DCP Process also removes all the fluoride from the UF6 feed materials. The process collects the hydrogen fluoride (HF) from the steam hydrolysis and pyrohydrolysis steps of the process and produces nominally 50% HF acid as a by product of the operations. This HF is sold on the chemical market as a byproduct. There is some HF produced at a concentration of between 5% and 10% as well as some liquids of varying concentrations resulting from maintenance operations. Most of this becomes unusable and is treated at the Waste Treatment facility. The volume of fluoride liquid from DCP is anticipated to be around 380 cubic meters per year and the treatment will result in nominally 75,000 kg/year of calcium fluoride.**

**By comparison then the waste fluoride liquid volume associated with the current ADU process will be reduced by almost 100%. The calcium fluoride generation resulting from the treatment will be reduced by approximately 92%. There is a brief period during the transition (3 - 6 months) when both processes may be running to some degree. This is consistent with our discussions with the NRC to only authorize the ADU operations through December of 1997 without further licensing action by GE.**

**Nitrate Liquid**

**Nitrate liquid is generated by the scrap recovery processes in the existing plant. The amount of scrap to be processed through this system is a direct result of the type and performance of both the conversion and fabrication process. This liquid is collected on-**

**site at the Waste Treatment Facility and trucked to International Paper as a nutrient in their waste treatment process (beneficial reuse). This is authorized in license SNM-1097.**

**With the operation of the ADU process, the plant is generating approximately 22,000 cubic meters per year. Based on the ADU process driven backlog we expect this process to work approximately 5 years at this rate to work off the backlog.**

**The DCP process will utilize much more direct recycle of uranium in the form of U3O8. This fact coupled with the fact that the DCP process is expected to generate much less "dirty" scrap leads GE to the conclusion that once the current backlog of the ADU based materials is worked off (nominally 5 years) the ongoing nitrate based uranium recovery operations will be significantly reduced.**

**Based on this, GE projects that this waste stream will remain consistent over the near term (typically 5 years). Once the ADU process related backlog is worked off, GE will make a determination on the future of the operation of the scrap recovery operations. It is clear that the operation of DCP will result in a reduced on-site demand for this service and therefore a reduction in the nitrate waste liquid.**

**Calcium Fluoride**

**As explained above the calcium fluoride is generated as the result of treating the fluoride waste liquid (HF) before release. With the ADU process the volume of calcium fluoride generated is nominally 986,000 kg/year. With the DCP process it is nominally 75,000 kg/year. This is an approximate 92% reduction in the calcium fluoride.**

**Uranium Recovery**

**With the operation of the ADU process, we are required to process nominally 175,00 kg/year of scrap UO2 including a backlog of materials that require this level of processing for a currently estimated 5 years of operation.**

**With the DCP operations the requirements for this type of recovery operation is not totally eliminated but is very significantly reduced. Direct dry recycle of U3O8 plays a significant part in this reduction. Estimates of quantities are not available at present.**

**Once the backlog is worked off and operating history is obtained for DCP, then GE will make decisions about the continued operation of the Uranium Recovery process.**

**Calcium Sulfate**

**Calcium sulfate is generated as a part of recovering the sludge in the nitrate based lagoon system. It is a function of the amount of sludge that has built up there over the years. The project is currently generating calcium sulfate at the rate of nominally 840,000**

**kg/year. This process may run at this level for the next year. Further estimates are a direct function of decisions made relative to the Uranium Recovery process as discussed above and other process changes being considered at present.**

**Combustible Trash**

**Combustible trash is generated on-site by the nuclear processes, collected and packaged for incineration, incinerated on-site and the ash processed through the Uranium Recovery process.**

**During operations of the ADU process. the total fuel manufacturing processes generate typically 182,000 kg/year. Of this quantity around 80% is attributable to the ADU conversion operations (145,000 kg). The material is stored on-site before incineration and the backlog is kept low in large part influenced by the fact that the boxes must age 60 - 90 days to allow certain isotopes to come to equilibrium before measurements are made.**

**Operations of the DCP facility will result in the generation of nominally 18,000 kg/year. All other conditions will remain the same.**

**Operation of the DCP therefore has a very positive impact on this waste, reducing the portion attributable to conversion by nominally 90% which in turn will result in a reduction in the site's overall combustible waste of around 70%.**

**Non-Combustible Waste**

**Non-combustible waste are those materials that have become contaminated during the uranium processing operations and can not be cleaned for release. They are collected on-site and packaged for off-site disposal, however, currently most are being retained on-site because of restrictions on off-site disposal.**

**With the operation of the ADU process, the site generates approximately 364,000 kg/year. Of this quantity approximately 80% is attributable to the ADU conversion operations (290,000 kg).**

**The operation of the DCP is expected to produce nominally 8,500 kg/year.**

**Therefore the operation of the DCP will result in a reduction of approximately 97% of this type waste associated with conversion which in turn results in a reduction in the site's overall non-combustible waste of around 77%.**

EA2. *Provide a description of accident scenarios for the new dry conversion process and estimates of the environmental impacts of these potential accidents.*

**A description of accident scenarios for the existing GE Wilmington facility (covered under SNM-1097) is described in the 1989 Environmental Report, Chapter 6. The new**

**DCP process has added two new hazardous materials with the potential to have an off-site impact. The two materials are hydrofluoric acid and hydrogen.**

**GE Wilmington has performed an evaluation of the potential off-site impacts from a catastrophic release of hydrofluoric acid and hydrogen to determine applicability under EPA's new Accidental Release Prevention (40 CFR 68; CAA 112(r) - Effective 1999). EPA's "RMP Offsite Consequence Analysis Guidance" document was used in this determination. This guidance is based on extremely conservative assumptions that are documented below for hydrofluoric acid and hydrogen.**

**Hydrofluoric Acid**

**Assumptions:**

- **Catastrophic failure of 50% HF tank (5,000 gal)**
- **Spill occurs in diked enclosed structure**
- **The entire content of tank is released in 10 minutes**
- **Wind speed 1.5 m/s and F stability**
- **Ambient temperature (25 C and 50% humidity)**
- **Further specific assumptions can be found in EPA's "RMP Off-site Consequence Analysis Guidance"**

**An accident as described above would result in a toxic endpoint at distance of 0.19 miles. The 50% HF storage tanks are located approximately 0.18 miles from the nearest property line. The toxic endpoint for hydrofluoric acid is 0.016 mg/l based on Emergency Response Planning Guidelines 2 (ERPG-2), developed by the American Industrial Hygiene Association.**

**This assessment predicts the conservative potential worst case result of a toxic endpoint at 0.01 miles (53') beyond the GE property line. There are no residential dwellings in this immediate vicinity. The assumptions made and the calculation methods used were very conservative and more detailed modeling assessments would clearly reduce the extent of the toxic endpoint.**

**The installation and operation has been analyzed using HAZOP techniques in an integrated safety approach. Those items important to safety have been identified and potentials for accidents have been minimized. The operations are to be controlled within a management system that includes pre-startup reviews, audits, training, maintenance oversight and control systems which serve to reduce the potential for accidents. GE had determined that the operation of this facility is safe and not expected to have a detrimental impact off-site.**

**Hydrogen**

**Assumptions:**

**- Catastrophic release of hydrogen tank (20,000 gal)**
**- Total quantity of hydrogen forms a vapor cloud within the upper and lower flammable limits and detonates. 10% of the flammable vapor cloud participates in the explosion.**

**An accident as described above would result in an over-pressure level of 1 pound per square inch (psi) at a distance of 0.3 miles. The hydrogen tank is located approximately 0.09 miles from the nearest site boundary. An over-pressure of 1 psi is used by EPA's "RMP Off-site Consequence Analysis Guidance" due to potential for partial demolition of houses.**

**This assessment predicts the conservative potential worst case of an over-pressure of 1 psi at 0.21 miles (~1100 ') beyond the GE property line. There are no residential dwellings in this immediate vicinity. The assumptions made and calculation methods used were very conservative and more detailed modeling assessments would clearly reduce the extent of the over-pressure.**

**The installation has been analyzed using HAZOP techniques, is operated by Air Products - a large highly qualified national supplier, and there is a system of management oversight, pre-startup reviews, audits, training and control systems which reduce very significantly the potential for accidents of even limited magnitude. Based on all this GE believes that the installation and operation of the hydrogen supply to be safe.**

FR1. *You have described an ongoing ISA program, which incorporates fire hazard analysis. Please provide a summary of the fire hazards identified by the program and engineered control systems or other measures implemented to minimize the risk of and mitigate the consequences of accidents arising from such hazards.*

**The ISA program as documented in the License Renewal Application is being applied to the DCP project and will be completed before operation with special nuclear material. The program integrates all aspects of safety as defined in the document. The information generated by the program as currently documented is for use by the facility operator to assure that their operations are conducted safely and that the regulatory requirements are met. We have also committed to maintaining all such records and configurations on file for review at the site by the NRC as required or necessary. The records for the DCP work are available here for review. The balance of the plant has not received the ISA review and a plan and schedule for this work will be developed as a part of the renewal effort.**

**The NRC has indicated that some form of a summary of the ISA work is desired by the NRC as a part of their licensing review. At this point neither party has determined an appropriate and workable format for that information. Until this is defined, GE is offering on-site reviews of the work.**

**To more specifically provide an overview of the fire hazards which came out of the ISA process, the following summary lists those highest risk items that surfaced.**

**A. <u>Hydrogen to Kiln</u>**

**(1) No/Low Hydrogen Flow**
- **PCV-12156 malfunction, incorrect set-point**
- **XV-12907 malfunction**
- **Flow control Loop FT-12212 malfunction, mis-calibration, incorrect set-point**
- **Manual valves in supply line closed**
- **Manual valves in vent line closed**
- **High pressure in outlet hopper**
- **Nitrogen purge line open**
- **Loss of upstream hydrogen supply**
- **Hydrogen line leakage or failure**
- **Diversion of hydrogen to nitrogen purge line**

**(2) More Hydrogen Flow**

- **PCV-12156 malfunction, incorrect set-point**

**(3) Incorrect Composition of Hydrogen**
- **Line not purged**
- **Rupture/leak**

**B. <u>HF Recovery Washing Columns</u>**

**(1) No/Low Flow of Stack Gases**
- **Dilution air valve closed**
- **Failure of the fan**

**(2) Reverse Flow**
- **Fan running backwards**

**The details of these fire risk situations, the way they are controlled and the manner in which the risks/consequences are mitigated are available at the site for detailed review.**

FR2. *Please state how often independent auditors perform fire protection inspections of the facility and whether records of these inspections are maintained.*

**The currently approved Radiological Contingency and Emergency Plan (RCEP), Rev. 2, dated July 31, 1996, Section 7.5 commits GE to annual independent audits controlled and conducted by GE. Additionally, American Nuclear Insurers (ANI) and Factory Mutual (FM) make periodic site inspections/audits to verify fire safety. The frequency of these is controlled by the two companies, however, the frequency has typically never been less than twice per year and generally more than that especially when facility modifications are in progress. Records of these activities are documented and the resulting corrective action items are tracked for closure.**

FR3. *The agency's Technical Position (TP) on Fire Protection for Fuel Cycle Facilities, published in the Federal Register (57FR35807-13), dated August 10, 1992, Section 3.1, advises that process buildings of the facility should be constructed of non-combustible or, where applicable, limited combustible materials and that the structural members should have the minimum fire resistance ratings to qualify as Type I construction, as classified by NFPA 220, Types of Building Construction. Please state whether the buildings meet these specifications. If they do not, please state what additional measures are taken to mitigate the situation and bring fire safety to an acceptable level.*

**The nuclear processing facilities used on the site have been constructed over a number of years beginning in 1968. They have been well maintained. With the exception of the new DCP construction, they were all constructed prior to the publication of the "Guidance on Fire Protection for Fuel Cycle Facilities" in the Federal Register, August 10, 1992. Notwithstanding this, the buildings have all been constructed to meet local and State building codes and Fire Insurance requirements, when modified the current codes and requirements considered and they have been maintained with the knowledge of the codes. NFPA guidance has also been used in the design and construction of the buildings. The NRC has inspected all but the new facilities and generally found them to acceptably meet the requirements of the NRC Branch Technical Position.**

**The existing facilities which were built prior to 1992 are constructed using a combination of non-combustible and limited combustible materials to NFPA Type II construction standards except for the Uranium Recovery Area where the Solvent Extraction Operations do have 1 hour rated coated structural steel members, 2 hour rated walls and a high density (0.25 GPM/square foot) sprinkler systems. In addition to Type II construction standards the plant areas are sprinkled to provide an extra margin of protection, employees are trained on how to treat fires and there is an on-site emergency response unit that responds to fires and is trained to deal with non-structural fires. Agreements are in place for local fire department support should it be needed. Fire loading in the process are also kept generally low.**

**The new DCP facility is constructed to NFPA 220, Type I construction standards. While connected to the current process buildings, there is a 4 hour rated barrier between the two and the DCP is a self supporting structure.**

FR4. *Please provide drawings(s) of the process buildings showing the locations of the fire-rated barriers and identifying the principal processes performed in the compartments formed by the barriers.*

**GE does not currently have a set of drawings to be used for public disclosure of this type of information. We have, however, on site a copy of drawings which have been specially marked and coded to show this information. These drawings were recently used with the local and State code officials to review our fire planning in conjunction with modifications to the current nuclear processing buildings and the addition of the DCP. During the fire protection site visit GE proposes that these drawings and the actual facilities be reviewed in this regard.**

FR5. *The TP, Section 3.4 advises that the building design should provide for safe means of egress for personnel in the event of a fire and cites NFPA 101, Life Safety Code, for guidance. Please confirm that the building(s) comply with the specifications of NFPA 101.*

**Yes, the nuclear production facilities at the site meet the requirements and objectives on NFPA 101 and where applicable NFPA - 801. This had been recently reviewed locally and with the State offices as a routine part of the process of gaining building permits for the new construction and major modifications associated with the DCP, FMOX Warehouse and the interconnection and integration between the new buildings and the existing ones. State and local code offices find our applications of these standards acceptable for the purposes of design and construction. They conduct a follow-up verification prior to issuing an occupancy permit, a process which is not ready to complete at this time but will before the buildings are occupied for commercial operation.**

FR6. *Is the building ventilation system built of non-combustible materials? Does the duct system design provide for isolation of compartments and exhaust of fire gases in the event of a fire? Do the HEPA filters comply with the ANSI Standard B 132.1?*

**Generally in areas where there are sources of heat the duct is constructed of metal. In areas where liquids and especially chemicals are present, PVC and RFP are chosen for compatibility. Based on this, in the ADU and URU processes the chemical parts of the system typically have some PVC and RFP components while from the calcining step on the components are metal. In the DCP facility the ducts are metal. The HF recovery facility uses PVC and polypropylene.**

**Typically the FMO/FMOX buildings do not have isolated compartments, In most of these process steps the process steps are segregated by a sequence or rooms (e.g. Vaporization, conversion, pressing, sintering, grind and rod load). In the Uranium**

**recovery operation there is some segregation - in particular the SX Cell is segregated. In the DCP facility the individual pieces of process equipment at each step of the process are segregated in their own cell.**

**In the FMO/FMOX facility the ventilation system may either be operated which removes air from the process areas or shut off - therefore it is possible to exhaust fire gases. In the DCP facility there is considerable control available. Some is automatic and some is manual - the main purpose is to control a possible fire. In the DCP fire gases can be exhausted.**

**The HEPA filters in the facility comply with Underwriters Laboratory Standard UL - 586 (ANSI B 132.1).**

FR7. *Do the buildings have lightning protection?*

**Yes. All buildings used in the nuclear operations are lightning protected to the NFPA 780, Lightening Protection Code, including any State or local code requirements.**

FR8. *In the ADU line calciners, is an automatic hydrogen shut-off provided to stop flow of hydrogen in the event of over-pressurization? Will the actuation of the shut-off valve also actuate visible and/or audible alarm?*

**Yes, the system includes an automatic shut-off valve to stop the flow of hydrogen in the event of over-pressurization.**

**Yes, activation of this automatic shut-off valve initiates both visible and audible alarms.**

FR9. *In Section B.2.2 of the Supplemental Information you have stated that fire hazards are not significant in the dissolver area. However, fires have been known to have originated from dissolver vessels. Please state what controls, if any, are implemented for screening scrap or waste products that go into the dissolution process, to preclude potentially explosive combination of chemicals.*

**All scrap involving the dissolution process has first been oxidized and sorted by material type prior to introduction to the dissolvers. Clean Scrap (meaning not bearing gadolinium) is oxidized in the REDCAP furnace at temperatures between 400 - 450 degrees C. This scrap is then stored and not mixed with other sources of scrap prior to being transferred to the dissolution process.**

**All other scraps excluding incinerator ash are also oxidized. These materials are oxidized in the Uranium Recovery Unit oxidation furnace at a nominal temperature of 900 degrees C. At these oxidation temperatures, all organic materials are completely destroyed and therefore are not present at the dissolver.**

**The incinerator ash is of course the product of a vigorous oxidation process that removes all organic material.**

FR10. *Please address a similar concern as in Item 9 above regarding the counter-current leaching process described in Section B.2.3 and the head-end concentrator process described in Section B.2.4 of the Supplemental Information.*

**Incinerator ash materials are processed by the counter-current leacher. These materials are generated by a vigorous oxidation process which removes all the organic material. They are stored and not mixed with other materials prior to being introduced to the leaching process. As a result organic material is not present.**

**The Head-End Concentrator operating temperature is limited to 110 degrees C by the control system. Below this temperature nitrated organic compounds are not formed and therefore would not be in the system. Additionally there are no organic bearing solutions introduced during the operations.**

FR11. *Please state what solvent is used in the solvent extraction process described in Section B.2.5 of the Supplemental Information and the flash point of the solvent. If the solvent can be classified as a flammable liquid, please state whether the solvent extraction process is confined to a compartment of the facility and whether all electrical equipment in the area are of the explosion-proof type.*

**The diluent used in the process is n-Dodecane with a flash point between 160 -172 degrees F.**

**The extraction agent mixed with the n-Dodecane is Tributyl Phosphate (TBP) in concentrations ranging from 15 - 30 volume percent. TBP has a flash point of 295 degrees F.**

**Both of the pure compounds and the mixture are classified as combustible liquids (Class III - NFPA Standard # 30) having flash points above 140 degrees F.**

**The electrical equipment in the area is not required to be of explosion proof design because of the flash point of the mixture.**

**Additional special fire safety considerations in the Solvent Extraction Cell (SX) include:**

- **Fire Wall (2 hr rated)**
- **Coated Steel (1 hr rated)**
- **Fire Doors**
- **Grounded solvent storage tank**

- **High density sprinkler system (0.25 GPM/square foot)**
- **~ 8 air changes per hour**
- **API fire valves on storage tank and on pipes penetrating the fire wall**
- **Welded/flanged/pressure checked solvent piping with flexatalic gaskets**

**In the Solvent Makeup Area (ASMU) there are also special fire safety considerations as follows:**

- **Fire wall (2 hr rated)**
- **Coated steel (1 hr rated)**
- **Fire doors**
- **High density sprinkler system (0.25 GPM/square foot)**
- **Tanks/pumps/drums are grounded**
- **Welded/flanged/pressure checked solvent piping with flexatalic gaskets**
- **API fire valves on solvent storage tanks and on pipes penetrating the fire wall**
- **Tanks vented (with flame arrestor) to VOG**
- **Normally closed (nc) automatic block valves with plastic tubing on air supply actuators**

FR12. *Please describe what preventative maintenance steps, if any, are followed to ensure that the incinerator scrubber, described in Section B.2.8, adequately cools the exhaust gases issuing from the incinerator. Please include the frequency of the maintenance procedures.*

**The following items are included in the routine maintenance for the incinerator:**

| | |
|---|---|
| **Temperature Elements** | **Calibrated Annually** |
| **Flow SwitchesCalibrated** | **Annually** |
| **Mechanical Inspection** | **Quarterly** |

**In addition, since a recent safety review, the Emergency Quench water source has been modified to be redundant. The primary source is from the plant DI water system. The system has now been modified so that on low pressure in the DI water system, a check valve now provides a tie-in to the FMO site service water through a gravity feed arrangement. This is all part of the system to ensure that the flue gas temperatures do not melt the FRP components in the off gas system.**

FR13. *Section 5.9, Hot Cells, and Section 5.10, Glove Boxes, of the TP provide guidance for construction and operation of the respective equipment. If applicable, please describe how each complies with the guidance.*

**The facilities licensed require no Hot Cells to perform the work authorized and none are utilized. Section 5.9 is therefore not applicable.**

**The use of enclosures and localized ventilation is discussed in Section 5.3.2 of the current License Renewal Application document dated 4/5/96. In these cases we optimize to the degree practical the materials of construction and do control and limit the use and accumulation of combustible materials.**

FR14. *Please provide floor plans of process buildings showing areas having sprinkler protection and those without such protection. Please explain the reason for [the] exclusion [of] sprinklers from each area without them.*

**All of the process buildings are sprinkled with the exception of the DCP main process building, the access corridor from DCP to FMO/FMOX and the dry scrap recycle processes that interface with DCP. In the areas not sprinkled fire loading is kept low and a combination of early detection, ventilation control and large fire extinguishers (CO2). Therefore the philosophy of reduced opportunity, rapid detection, quick response and control are used to off-set the function of the sprinklers.**

**GE does not currently have a set of drawings to be used for public disclosure of this type of information. We have, however, on site a copy of drawings which have been specially marked and coded to show this information. These drawings were recently used with the local and State code officials to review our fire planning in conjunction with modifications to the current nuclear processing buildings and the addition of the DCP. During the fire protection site visit GE proposes that these drawings and the actual facilities be reviewed in this regard.**

FR15. *Please provide a site plan showing locations of the fire mains, fire pumps, hydrants, sectional valves, PIVs, hose locations, fire department-compatible connections, and fire protection water reservoirs. Please state the sources of the fire water, whether the sources are perennial, sizes of and pressures in the fire mains, capacities of the reservoirs, and the rated head and discharge of the pumps.*

**The currently approved <u>Radiological Contingency and Emergency Plan (RCEP)</u>, Rev. 2, dated July 31, 1996 provides the information requested. The principal references in this document are Section 5.3.17 - Fire Protection System and Figure 5.3 - Plant Fire Protection System. Additional detailed information is retained on-site and could be reviewed as a part of a site visit to verify the information contained in the RCEP.**

FR16. *Please state the frequency of the fire drills for the Emergency Response Team and whether they are critiqued and the lessons learned kept in record.*

**The currently approved <u>Radiological Contingency and Emergency Plan (RCEP)</u>, Rev. 2, dated July 31, 1996, Chapter 7 - Maintenance of Radiological & Emergency Preparedness Capability covers training, drills and exercises. Of particular interest is Table 7.1 which discusses initial and periodic retraining including drills and exercises along with minimum commitments specified typically as annually or quarterly. Drills and**

**Exercises are also discussed in Sections 7.3 - 7.5. These sections cover the major drills and exercises, the requirement for critiques, records and audits.**

**In addition to the minimum commitments the Emergency Response Team meets monthly for additional training, familiarization and/or practice as it relates to the site. These sessions are documented. Periodically off-site agencies visit the site for training and/or familiarization exercises and these are documented. When we have actual or false alarms they are all treated as events and in most cases there is a critique at the end of the event where observations and needs for improvement are recorded and addressed. The Emergency Organization also has table-top exercises from time-to-time to familiarize themselves with certain aspects of emergency response and these sessions are documented and critiqued.**

**The records for all these activities are maintained on-site and are available for inspection by the NRC on-site.**

FR17. *Section 10, Pre-Fire Plan, of the TP provides guidance on preparation of a Pre-Fire Plan. Please state if you have a Pre-Fire Plan drawn up in accordance with the guidance or in any other form. Please state whether the Emergency Response Team, as well as the off-site fire department personnel are familiar with the plan.*

**The currently approved Radiological Contingency and Emergency Plan (RCEP), Rev. 2, dated July 31, 1996, covers the programmatic aspects of pre-fire planning in the same format and process outline as is used for all pre-emergency planing at the site. GE uses a consistent programmatic process approach for emergencies so as to enhance the training and performance of the emergency response elements of the business activity. Of particular interest in the Pre-Fire Plan area are Sections 2.1.2, 2.2.2 and Chapters 3 - 10.**

**Additionally the RCEP includes Appendix C which shows the index for the site implementing procedures for emergency response and "Fire & Explosion" constitutes one of the key procedures. A couple of typical emergency response procedures are included as Appendix D. During a site visit a complete review of the procedures could be accommodated.**

**The site Emergency Response Team and the off-site fire department personnel are familiar with the plan and letters of agreement are in effect between GE and the off-site agencies (see Chapter 10 regarding the Right-to-Know Act compliance). Drills and exercises are also conducted and this too furthers the knowledge and understanding.**