October 24, 2003

MEMORANDUM TO: John D. Monninger, Chief
Licensing Section
Licensing and Inspection Directorate
Spent Fuel Project Office, NMSS

FROM: Christopher M. Regan, Project Manager
Licensing Section /RA/
Licensing and Inspection Directorate
Spent Fuel Project Office, NMSS

SUBJECT: SUMMARY OF OCTOBER 15, 2003, CONFERENCE CALL WITH GENERAL ELECTRIC REGARDING THE 10 CFR PART 72 LICENSE RENEWAL APPLICATION FOR GE-MORRIS (TAC NO. L23091)

On October 15, 2003, SFPO staff and technical assistance contractors from Advanced Technologies and Laboratories International, Inc., participated in a conference call with representatives of the General Electric Morris Operation (GEMO). The purpose of the conference call was for the staff to provide feedback to GEMO on the completed response to the staff's Request for Additional Information (RAI). The call covered section 1 through 5 of the RAI response. The attachment contains a summary of the discussion for each RAI.

Participating in the call for NRC: Chris Regan, Ed Miller, Kim Hardin, Chris Brown, and John Monninger; for ATL: Mark Orr, Mark Notich, and Don Palmrose; and for GEMO: Jim Ellis, Ed Secko, and Chris Monetta.

Docket No. 72-1
Attachment: Summary of RAI Discussion

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OCTOBER 15, 2003
CONFERENCE CALL WITH GENERAL ELECTRIC REGARDING
SUMMARY OF REQUEST FOR ADDITIONAL INFORMATION DISCUSSION

RAI No.	Summary of Discussion
1-1	The RAI asked for a description of the process used to identify those plant systems, structures, and components (SSCs) that should be subject to an aging management review (AMR). The GEMO response listed the important to safety - SSCs identified in the Consolidated Safety Analyses Report (CSAR). The NRC felt that the RAI was not fully answered because GEMO did not describe the process used to identify SSCs that require an AMR and those that do not require an AMR. The NRC provided examples of the process used to screen SSCs and what might be used to identify what is within the scope for renewal of the GEMO operating license. Additional guidance on the scoping process is available in the draft license renewal guidelines for the Independent Spent Fuel Storage Installation (ISFSI) at the Surry Nuclear Power Station as well as the spent fuel pool section of the St. Lucie Nuclear Power Plant license renewal application and the NRC safety evaluation report (SER). The NRC would like to see a similar discussion of the scoping process from GEMO. GEMO agreed to reconsider its response to this RAI.
1-2	The RAI asked for a list of SSCs identified by the scoping criteria of RAI 1-1. GEMO felt this RAI was similar to 1-1 and referred to the response to 1-1. The NRC stressed that the AMR consisted of a four step process: 1. Establish a logical process to evaluate site SSCs to identify items important to safety; 2. Using the process, evaluate site SSCs and identify those components that are important to safety or whose failure could damage an important to safety SSC; 3. Evaluate the identified SSCs to identify the potential effects of aging on the SSC; and 4. Describe the existing (or proposed) process needed to manage the aging effect or justify why the potential aging effect need not be managed at their facility. The NRC offered the fuel rod as an example. The fuel cladding is the first barrier against release of the nuclear fuel. Cladding could be subject to potential aging effects if it is not maintained in a basin with the proper water chemistry. Thus the fuel cladding may be considered an SSC important to safety and which may be subject to a potential aging effect. Thus the equipment used to maintain the basin water chemistry may be considered an SSC whose failure will have an adverse effect on the SSC important to safety (fuel cladding/assembly). Under this scenario,

RAI No.	Summary of Discussion
	the water basin treatment equipment may also require an AMR. GEMO could use existing preventive maintenance (PM) programs as the aging management program for basin water quality SSCs. GEMO would need to identify the effects of aging on the water basin treatment equipment (pump/motor failure, resin consumption, pipe thinning, etc.) and describe how the existing PM program will mitigate each potential aging effect. Another SSC to be considered might be the steel building that encloses the basin. Questions that might be addressed include: Can the steel structure, building columns, foundation, and roofing fail or degrade to a point where they would endanger the safe storage of the spent fuel? If so, what would be the physical indications of the aging or degradation? What actions would be required to identify, prevent or mitigate the identified aging effect? GEMO agreed to reconsider its response to this RAI.
1-3	The RAI asked for a list of SSCs not important to safety but whose failure could prevent an important safety function from being fulfilled. GEMO provided a list of components that have undergone major renovation to demonstrate the effectiveness of their maintenance The NRC offered the fire hoses in the spent fuel pool at St. Lucie as an example of the type of equipment they consider not important to safety but whose failure could impact a safety function. St. Lucie eliminated the spent fuel pool water makeup and piping system from their AMR because, if it failed, emergency water could be added using the fire hoses. This action however, made the fire hoses an SSC not important to safety but whose failure could endanger the fuel pool water level. Thus, the fire hoses needed to be considered in the AMR. In a similar fashion, the GEMO water supply system may not be subject to AMR because, if it fails, the site would have several weeks to restore it to operation before the water level in the pool would evaporate to within 9 feet of the top of the fuel bundles. If GEMO decides to scope out the water treatment system from the AMR they must demonstrate that the safety of the fuel would not be compromised. The NRC suggested that GEMO reconsider its response to RAIs 1-1 through 1-3 and develop a formal process to identify SSCs important to safety. They can then use the process to identify specific SSCs subject to an AMR. Each identified SSC can then be examined to identify the potential aging effects and a program can be developed or identified that monitors for, mitigates, or prevents the aging effect. It is key that GEMO include all systems that are necessary to keep the fuel stored safely. Some items (i.e., instrumentation, some monitoring equipment) may not need to be on the list because they have no direct effect on the safe storage of the fuel. The key to the discussion is being able to demonstrate that GEMO can (1) prevent damage to the spent fuel, and (2) allow safe movement of the fuel for the next 20 years. In order to be fully responsive to the RAI a complete discussion for each

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	SSC under consideration would be necessary. GEMO agreed to reconsider its response to this RAI.
1-4	The RAI asked for a list of instrumentation and support equipment for specific activities at the ISFSI. This RAI may be dropped because many of the instruments are not specifically required to assure safe storage, prevent damage, or allow for the movement of the fuel.
1-5	The RAI asked about the requirements for control room habitability. GEMO stateds that no postulated accident requires the control room. The NRC had no comment on this RAI response.
1-6	The RAI asked about the impact of the loss of instrument air on the facility. GEMO stated that the instrument air system has redundancy and its loss will not adversely impact the safe storage of the spent fuel. The NRC had no significant comment on this RAI response although changes in response to RAIs 1-1 through 1-3 may require revision to this response.
1-7	The RAI requested information about the potential for a fire to impact safe storage of the fuel should the fire suppression equipment fail. GEMO stated that combustible loading is very low in the basin area and no fire suppression system is needed and therefore should not be within the scope of license renewal and subsequently not subject to an AMR. Their American Nuclear Insurer (ANI) inspection report supports this position. The NRC requested a copy of the current ANI report.
1-8	The RAI asked what portion of the electrical power supply should be subject to an AMR. GEMO stated that none of the electrical system was important to safety nor would its failure prevent an important to safety SSC from functioning. The NRC expressed its belief that given the clarification of RAIs 1-1 through 1-3, at a minimum, the diesel generators should be considered an SSC that requires an AMR. GEMO agreed to consider the diesel generators as within the scope of LR.
1-9	The RAI asked for a detailed description of the process used to demonstrate that GEMO can manage the effects of aging and maintain important to safety SSCs for the duration of the license renewal period. The response stated that GEMO plans to develop an Aging Management Program (AMP) in the future. The NRC feels that this is a key issue and an AMP must be in place before the license can be renewed. GEMO agreed to develop an AMP and include it as part of the revised license renewal application.
1-10	The RAI asked for copies of P&IDs to identify the boundaries of SSCs subject to an AMR. GEMO's response stated that no SSCs are currently covered by an AMP and the CSAR contains generic system diagrams.

RAI No.	Summary of Discussion
	The NRC felt that this information would be a natural outgrowth of the scoping assessment process used to respond to RAI 1-1 through 1-3 and can be as simple as one-page system diagrams with colored highlighter outlining the system boundaries that define the boundaries of the SSCs defined as within the scope of LR and therefore subject to an AMR. GEMO agreed to reconsider its response to this RAI.
1-11	The RAI asked about the high-pressure natural gas pipeline. GEMO's response stated that the line valve is closed and natural gas components are being replaced with electrical equipment. The NRC had no comment on this RAI response.
2-1	The RAI asked GEMO to identify historical age-related degradation at their facility. The response identified components that have been replaced but did not identify age-related degradation at the facility. The NRC explained that they should look for the effects of aging (cracks, leaks, spalling, etc.) but not necessarily the reason (mechanism) behind the effect. GEMO offered to expand the response to describe why the SSCs were replaced.
2-2	The RAI asked for a description of the material, environment, and potential aging effects for SSCs subject to an AMR. GEMO did not fully respond to the RAI. The NRC explained that they are looking for a description of the characteristics GEMO considers when they evaluate components for the applicability of an AMR. GEMO agreed to revise the response to this RAI.
2-3	The RAI asked for a copy of a 1972 report on the repairs to the basin liner. GEMO provided a brief description of the repairs. GEMO explained, however, that the report was not very detailed and the long term service of the patch demonstrated its effectiveness. The NRC stressed that the patch and weld materials may be subject to aging effects and should be considered when performing the AMR. GEMO agreed to revise the response to this RAI.
2-4	The RAI asked about inspections for inaccessible areas of SSCs. GEMO gave a good explanation for the fuel support grids, baskets, and basin floor. They further identified a potential aging effect (corrosion) and their program for managing it (water chemistry). The NRC felt that this was an excellent example of the type of evaluation required for the license renewal application. It was however not comprehensive enough, e.g., is corrosion the only aging effect? Are the grid and basin floor structures the only inaccessible areas? GEMO agreed to reconsider its response to this RAI.

RAI No.	Summary of Discussion
2-5	The RAI asked for copies of basin liner inspection reports. GEMO provided the reports. The NRC asked about the potential for future inspections and GEMO said they were considering them. The NRC had no additional comment on this RAI response.
2-6	The RAI asked about the impacts of aging on the spent fuel and fuel cladding. GEMO stated that they know of no source of information for this type of data. The NRC referred GEMO to an International Atomic Energy Agency (IAEA) technical document (IAEA-TECDOC-1012) titled “Durability of Spent Nuclear Fuels and Facility Components in Wet Storage” to assist them in properly responding to this RAI.
2-7	The RAI asked for additional justification for the heat load used to determine the thermal input to the basin water. GEMO referenced a one page report by Jim Kesman dated November 27, 2001. The NRC asked for additional details and GEMO agreed to supply the backup data for the Kesman report.
2-8	The RAI asked for additional information on the basin leak rate. GEMO provided detailed information on the pump out rates from 1980 to 2003. The NRC had no further comment on this RAI response.
2-9	The RAI asked for justification for the useful life expectancy of reinforced concrete given in Section 5.5.1 of the CSAR. GEMO’s response shows that they are going in the right direction but they still need to describe the process used to identify the effects of aging and the process they plan to use to monitor and/or mitigate those effects. The mechanism - what causes the aging - is not important. What is important is the expected effects (cracks, spalling, crumbling, erosion, etc.) and how they will be monitored and managed. GEMO agreed to reconsider its response to this RAI.
2-10	The RAI asked why specific components are not part of the aging management program. GEMO’s response provided sufficient information. The NRC had no comment on this RAI response.
2-11	The RAI requested a copy of the Material Safety Data Sheet (MSDS) for Electrofilm. GEMO furnished a copy of the MSDS. The NRC had no comment on this RAI response.
2-12	The RAI asked a series of questions about the corrosion of the basin. The NRC asked for additional clarification on item 2-12-d and a reference for 2-12-e. GEMO agreed to reconsider its response to this RAI.

RAI No.	Summary of Discussion
2-13	The RAI asked for additional information on the stainless steel basin liner. The NRC had no comment on this RAI response.
2-14	The RAI asked for additional information on the corrosion of stainless steel in the basin. The NRC had no further comment on this RAI response.
2-15	The RAI asked how GEMO can identify a leaking fuel assembly. The NRC felt GEMO's response was appropriate but needs some additional justification for the claim that any leak would start slow and be detected by the water or ventilation monitoring system before it would be a public hazard. GEMO agreed to reconsider its response to this RAI.
2-16	The RAI asked if any defective fuel is currently stored at the site. The NRC had no comment on this RAI response.
2-17	The RAI asked about the ventilation exhaust system. The GEMO response demonstrated a lack of understanding of what is considered in-scope and subject to AMR and what programs are available to prevent or mitigate failure. The staff suggested this response be answered more completely once the responses to RAIs 1-1, 1-2, and 1-3 are completed. GEMO agreed to reconsider its response to this RAI.
2-18	The RAI asked about the radionuclide removal rate for the sand filter. The NRC had no comment on this RAI response.
2-19	The RAI asked for verification that the plant components will maintain an adequate safety margin for the duration of the license renewal period. GEMO's response is a good start but it needs better justification for blanket statements such as "Stainless steel components also exhibit insignificant deterioration due to aging." GEMO agreed to reconsider its response to this RAI.
2-20	The RAI asked for a demonstration that the basin structural components will maintain an adequate safety margin for the duration of the license renewal. GEMO's response needs better justification and references. GEMO agreed to reconsider its response to this RAI.
3-1	The RAI asked for a description of the programs and activities used to manage the effects of aging. The NRC felt that this was a global question similar to 1-1 through 1-3 and the response by GEMO was insufficient. It was recommended that GEMO review the Surry ISFSI application for an example of the level of detail the NRC expects to see in response to this RAI.

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	GEMO agreed to reconsider its response to this RAI.
3-2	The RAI asked for a description of the programs used to manage the aging effects. The GEMO response is an acceptable start but it needs to be expanded to fully answer the RAI in light of a revised response to RAI 3-1. GEMO agreed to reconsider its response to this RAI.
3-3	The RAI asked for identification of the inspection program for the electrical system. In light of a revised response to RAI 3-1 GEMO agreed to reconsider its response to this RAI.
3-4	The RAI asked how the QA program interacts with the corrective actions program for items covered by the AMP. The response identified the functional classes used for plant components (FC-1 through FC-4) The NRC found the response interesting and potentially helpful for fully responding to RAIs 1-1, 1-2, and 1-3 but it was not the type of information requested by the NRC. GEMO agreed to reconsider its response to this RAI.
3-5	The RAI asked for a description of the inspection and surveillance program used to monitor the effects of aging on electrical and instrumentation and control (I&C) specific components. The response was a list of Preventive Maintenance activities used to inspect the equipment. This information is of interest but it may fall outside of the license renewal scope because it may not be subject to an AMR to begin with. This will become clearer once the responses to RAI 1-1 is completed. GEMO agreed to reconsider its response to this RAI.
3-6	The RAI asked for a brief history of the maintenance of specific SSCs. The GEMO response is good overall, but better references need to be supplied to support assertions such as "...there is no reason to expect deterioration of the baskets." The NRC would like to see additional clarification on items b, f, o, p, & q. GEMO agreed to reconsider its response to this RAI.
3-7	The RAI asked for operating specifications and surveillance requirements for basin water quality. The NRC had no comment on this RAI response.
3-8	The RAI asked for a description of the surveillance requirements for the basin water. The NRC had no comment on this RAI response at this time.
3-9	The RAI asked for an outline of the AMP for basin concrete elements. The response references the GALL report. The NRC requested additional identification

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	for the specific section or page of the GALL report in the reference. Similarly, a response that considers the response to RAI 3-1. GEMO agreed to reconsider its response to this RAI.
4-1	The RAI asked for clarification for the given χ/Q (Chi over Q) for short-term ground release in assumption (h) of section 8.6.2 and Table A.5-3 (fallout dose from precipitation washout) of the CSAR . GEMO replaced Appendix A.5 with a one-page summary of the public dose from the annual stack releases based on results from the EPA's COMPLY code program. The use of COMPLY is not an appropriate accident analysis code for short-term ground release. GEMO also did not change the X/Q value of assumption (h) of section 8.6.2 GEMO agreed to reconsider its response to this RAI.
4-2 thru 4-10	The NRC had no comment on RAIs 4-2 through 4-10.
4-11	The RAI asked about the construction of the sanitary lagoons. During the conference call it was revealed that GEMO does not have any "as-built" drawings of the lagoons and they considered the lagoons outside the scope of the license renewal because they only serve as open air septic tanks. GEMO furnished sample data for the lagoons. The NRC had no further comment on this RAI response.
4-12	The NRC had no comment on this RAI response.
4-13	The RAI asked for information on the impacts of nearby facilities on the safety of the GEMO ISFSI. The GEMO response stated that they know of no nearby facility that could have an adverse impact on the safe storage of the fuel. The staff stated that more internal dialogue with environmental reviewers as well as a more in depth look at the Individual Plant Examination for External Events (IPEEE) for the Dresden Nuclear Power Station to see how other license reviews addressed the impacts from nearby industrial facilities before providing meaningful feedback to GEMO on how to pursue an adequate response to this RAI
5-1, 5-2	The NRC had no comment on RAIs 5-1 and 5-2.
5-3	The RAI is related to 2-7 and should be resolved once GEMO submits the requested information.
5-4, 5-5	The NRC had no comment on RAIs 5-4 and 5-5.