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Vice President
Nuclear Operations

August 24, 1988

88-10-11:57

U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., N.W., Suite 2900
Atlanta, Georgia 30323

Attention: Dr. J. Nelson Grace, Regional Administrator

Dear Dr. Grace:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Response to SALP Report
AECM-88/0161

Your letter dated July 8, 1988 transmitted the Systematic Assessment of Licensee Performance (SALP) report for the Grand Gulf Nuclear Station (GGNS) facility for the period November 1, 1986 through April 30, 1988. On July 22, 1988 members of our staff and the GGNS Safety Review Committee met with members of your staff to review the results of the report. The attachment to this letter provides formal comments on the SALP report. We believe we have been responsive to the conclusions and recommendations discussed in your report.

SERI appreciates the candid and cooperative relationship which exists with the NRC. We believe that it promotes the free interchange of information necessary to facilitate the regulatory process and enhance nuclear safety. As has been stated before, SERI is committed to operating GGNS safely and at a standard well above the minimum regulatory requirements. We believe the significant improvements documented in the SALP report provide evidence of this commitment and continued responsiveness to nuclear safety in the operation of GGNS.

SERI believes the efforts of you and your staff are helpful in identifying areas where improvement of our operations is needed. Recognizing that excellence in energy is not a one-time achievement, our management continues to be diligent in overseeing all areas of nuclear plant operations. We believe such management attention is essential to ensure positive findings lead to further excellence and not to complacency.

As discussed on August 23, 1988 with Mr. Hugh Dance of your staff, due to final management review our response to this SALP would be filed on August 24, 1988.

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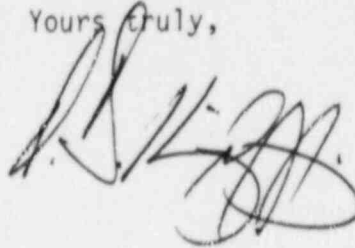
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A Middle South Utilities Company

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I would be happy to discuss this information or answer any questions you may have at your earliest convenience.

Yours truly,

A handwritten signature in black ink, appearing to be 'R. L. Kintner', written over the words 'Yours truly,'.

ODK:jjb
Attachment

cc: Mr. T. H. Cloninger (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. H. L. Thomas (w/o)
Mr. R. C. Butcher (w/a)

Mr. L. L. Kintner, Project Manager (w/a)
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop 14P20
Washington, D.C. 20555

SERI COMMENTS ON SALP RESPONSE

I. General

SERI shares the NRC's concern over the issues of human error and failure to follow procedures. SERI's letter (AECM-88/0102) dated May 20, 1988 documented several initiatives implemented in these areas. These initiatives are discussed further under the appropriate functional areas. While it is too soon to meaningfully evaluate the effectiveness of these initiatives, SERI continues to monitor them.

II. Plant Operations

The report indicated "improvements are needed in management controls during shutdown operations." The report also noted "root cause for some of the scrams indicates they could possibly have been avoided." SERI recognizes that management can be a contributor to root cause or can itself be a root cause. SERI realizes that, if we are to continue to show improvement in the area of Plant Operations, management must focus on being foresighted and predictive in nature rather than being reactionary. While there are lessons to be learned from an event that has occurred, ultimately the goal should be having a management team that prevents the occurrence in the first place. SERI has implemented (or begun implementing) several initiatives in the area of Plant Operations aimed at achieving our ultimate objective of no scrams or ESF actuations:

- A. A Human Performance Evaluation System focuses on the root cause identification of an event. This program is also aimed at identifying those situations where an occurrence almost happened and identifying what can be done to prevent it from actually occurring.
- B. A Root Cause Determination Policy has been developed to provide standard methods and terminology for determining the root cause of an event or condition.
- C. SERI has scheduled root cause analysis seminars for September, October, and November 1988 for a number of Plant Staff management. These seminars will be structured to stress why people fail to follow procedures.
- D. Senior SERI management personnel at the GGNS site have attended rigorous training programs designed to improve their managerial skills.
- E. A management team titled the Incident Review Board (IRB) has been formalized in a plant administrative procedure. This action was taken to increase management involvement in the incident root cause determination and corrective action process. The procedure requires that the IRB meet for each incident report involving a personnel error. As a measure to ensure that knowledge of the incident is effectively disseminated, the procedure also requires that the IRB specify, when appropriate, that section management

meet with the affected section(s) to review the incident and any associated immediate corrective actions. This meeting must occur by procedure within 48 hours of the IRB meeting. Any additional short or longer term corrective actions identified by the IRB in its review are included in the incident review process and are subsequently tracked to resolution. In addition to the immediate feedback provided by the IRB, other methods for indicating to individual workers their personal responsibility regarding procedural adherence are being evaluated. Recommendations for ensuring that feedback is effectively and clearly provided at the worker level will be reviewed in the October 1988 SRC meeting.

- F. In an effort to more effectively disseminate performance information, trend reports on LERs and notices of violation are distributed on a monthly basis. These reports present a listing of LERs and notices of violation by responsible section, cause, and show trends for the year.
- G. SERI is a member of the BWROG Scram Reduction Team and continues to use this effort to keep informed of current industry efforts in this area.
- H. SERI is evaluating the implementation of a scram prevention team composed of one senior manager, one Operations SRO, one System Engineering Superintendent, one Plant Modification and Construction Superintendent, one Maintenance Superintendent, and one Plant Licensing representative. The team would meet once a quarter and prior to or following major outages to review hazardous or unusual situations to recommend added precautions. This team could be used in conjunction with or be an extension of PSRC.
- I. SERI has established the System Engineering concept at GGNS. This concept provides a dedicated engineer responsible for several systems who has in-depth knowledge and expertise on these systems. Implementing this concept will provide both an overview and a focused awareness of what is happening to any given system at the site. One new manager level position for System Engineering has been added to the Plant Staff. This will allow redistributing the current managerial workload and provide increased management attention to overall operation of GGNS.
- J. At the request of the corporate Safety Review Committee, the Independent Safety Engineering Group reviewed all incident reports written between January 1987 and May 1988 to identify any significant trends in incident report frequency and root cause. As a result of several SRC discussions on the report, the Plant General Manager and the Plant Safety Review Committee were directed to review the findings and develop recommended corrective actions. The General Manager's response is scheduled for the October 1988 SRC meeting. (See also Item X.A of this Attachment.)
- I. SERI is also taking several actions to improve procedural compliance, special tests and outage control which are discussed under the surveillance and outage sections respectively.

III. Radiological Controls

SERI appreciates the very thorough assessment of this area. Continued strong management attention is focused on ensuring no relaxation of past positive performance occurs. A Middle South Utility System Task Force has completed a study of system manpower needs to ensure that adequate Health Physicist outage coverage continues to be available. The Task Force has recommended using a shared long-term contract to supply outage Health Physicists for the entire MSU system.

IV. Maintenance

The SALP report commented "At times maintenance activities were not always well controlled." Improved control of maintenance activities is a key element in achieving the overall goal of no scrams or ESF actuations. SERI has taken the steps detailed below to increase management attention in this area.

- A. The GGNS General Manager has combined his normal morning Manager's Briefing with the 0800 Daily Planning Meeting in order to focus attention on routine evolutions and to ensure proper priority is placed on out of service equipment.
- B. The implementation of the Maintenance Improvement Program has been accelerated so that the maximum benefit possible can be gained for the upcoming refueling outage (RF03). One of the principal findings from the Improvement Program was that maintenance superintendents and supervisors could devote more time to planning maintenance and controlling/observing work in the field if certain responsibilities were reassigned. The creation of System Engineering resulted in the centralizing within Plant Staff of engineering management in System Engineering. Secondly, the assignment of maintenance planners to the Planning & Scheduling group provided added opportunity for superintendents to focus on management and control of field work.
- C. Seven Maintenance Specialist positions have been created to improve workload coordination and reduce the administrative burden on first line supervisors and superintendents. Similar to the effect of establishing Systems Engineering and the movement of planners to Planning & Scheduling, the creation of these Specialist positions allows maintenance supervisory staff to spend more time in the field, directly observing maintenance activities.
- D. To enhance surveillance procedures and maintenance instructions, a revision to the Plant's Author's Guide was issued. The revision requires personnel to use INPO guidelines when preparing procedures.
- E. To ensure attention to detail and further reduce the failure to follow procedure incident rate, first line supervisors will be required to perform increased personnel monitoring activities.
- F. In addition, during the upcoming refueling outage greater use of specialty contractors for some labor intensive jobs such as diesel generator disassembly will be increased to

allow involvement of SERI personnel in a broader scope of outage activities. These individuals are knowledgeable in GGNS procedural requirements, and their involvement in a broader scope of outage activities should improve SERI's procedural adherence during outage periods.

V. Surveillance

1. The SALP noted "Surveillance procedures were not always clear in defining acceptance criteria." SERI recognizes the necessity of meeting all surveillance requirements in the GGNS Technical Specifications as well as the importance of the critical evaluation of surveillance data for indication of equipment degradation and impact on other tests. Each instance of inadequate procedures, failure to follow procedures and missed surveillances is aggressively investigated. Only when the investigation is completed is the appropriate corrective action specified. Recognizing that preventive actions are more important than corrective actions in this area, as in all others, SERI has taken the steps detailed below.
 - A. SERI is in the process of automating the surveillance tracking system. This effort will eliminate much of the potential for human error in the current system.
 - B. GGNS surveillance and test procedures define specific acceptance criteria for those parameters that are considered critical to determining the successful completion of the task. In those cases where data is recorded for information and is not critical as described above, specific acceptance criteria and tolerances were not typically provided. As a result, SERI has defined and procedurally implemented generic guidelines on acceptance criteria to provide clearer and more complete guidance to field technicians in those cases where "non-critical" data is recorded in a surveillance or other evolution.
 - C. The General Manager has directed each Plant Staff manager to begin a self-monitoring program to improve procedural adherence and heighten management oversight concerning surveillance testing. Supervisors are now required to perform monitoring of selected surveillances and to document their findings. During this monitoring supervisors are required to solicit feedback from workers regarding procedure improvement or problems.
 - D. Plant procedures controlling the preparation of modification special tests now require that the technical reviewers of this type test coordinate with the Operations section to obtain an SRO review of certain tests. This additional review is required for any test involving significant operational activities, ECCS activities or reactor protection system interfaces. The SRO review is to focus on operational impacts (i.e., actuations or scrams) related to performance of the test.

- E. As part of the System Engineering implementation discussed under Plant Operations, plant surveillance program tracking and coordination was reassigned to the Plant Licensing section. This provides a level of independence in the program implementation and also consolidates technical specification implementation coordinating activities under one Plant Superintendent.
- F. Other benefits to be recognized from implementing the System Engineering concept include the system expert involved in the review and preparation of all surveillance procedures related to systems they are responsible for.
- G. SERI recognizes the need for continuous management involvement in this area.

VI. Fire Protection

- 1. SERI appreciates the candid assessment received in this area. SERI does not intend to relax ongoing efforts in this area. Appropriate levels of management attention will be applied to ensure continued high performance levels. SERI intends to pursue implementation of Generic Letter 88-12, involving improvements of Technical Specifications in the fire protection area.

VII. Emergency Preparedness

The SALP report indicated "Training records need to be maintained better." Emergency Plan Procedure 10-S-01-23, Revision 10 has been updated to ensure monthly written verification of training qualifications for all onsite Emergency Response On-call personnel. Superintendent or Manager verification is required by the 20th of each month and is monitored by the Site Emergency Planning Coordinator. Corporate Emergency Plan Procedure (CEPP) 203 has been revised to include monthly verification of all offsite Emergency Response Organization personnel in accordance with CEPP 203 Attachment I.

The Training Section maintains and controls all training records for emergency response personnel. Conversion of the control of training records from a manual system to a computerized system was completed during the SALP evaluation period. This computerized system allows SERI supervisors to access and review personnel qualification/training status from terminals throughout the plant site/corporate office. The monthly printout of personnel training will continue to be used to provide a formal tracking tool.

Further emergency preparedness initiatives are discussed below.

- A. A siren activation and monitoring system has been purchased to upgrade the Alert and Notification System. It is currently being installed in Claiborne County, Mississippi and Tensas Parish, Louisiana. The activation and monitoring system upgrade provides the local governmental agencies the capability to monitor the condition of each siren unit upon command or on a routine basis (e.g., hourly, daily, weekly). The computerized system enables

the operator to monitor, via radio signal, the status of various criteria at each siren to determine operability. The system also provides for redundant activation capability (i.e., either agency can activate the all sirens in the event of a control station failure). Voice communications capability is also provided between agencies via VHF radio frequency.

The upgrade should provide a more reliable method of siren activation and more efficient method of determining and maintaining siren operability.

The siren activation and monitoring system is expected to be installed, fully tested and declared operational during the 3rd Quarter 1988.

- B. The Corporate Emergency Preparedness Staff is in the process of performing a Task Analysis (TA) of each Emergency Response Organization Position to upgrade emergency preparedness training. The TA includes a description of the primary tasks of each position, the tools available to accomplish those tasks, concerns that may preclude successful completion of position tasks, the training that is currently provided, and recommendations to upgrade position performance.

Upon the completion of the Emergency Response Organization Position Task Analysis, Emergency Preparedness and Training organizations will modify existing courses and/or develop new modules to ensure appropriate and adequate training based on the needs of each position.

The upgraded training program is scheduled to be complete in the 1st Quarter of 1989 for all Emergency Response Organization Personnel.

VIII. Security

The need for continued strong management support for the security program is clearly evident in order to sustain high levels of performance. SERI has not finalized the decision concerning the interim protected area barrier between Units 1 and 2 but is committed to maintain the present security enhancements in effect until final resolution of Unit 2 is reached. The following are specific initiatives currently in progress to improve the security program:

- A. SERI has implemented a program to reduce the number of safeguards log events. This program requires establishing goals and notifying management of loggable events. Improved personnel awareness and door maintenance efforts have reduced the number of events by more than 85% since the end of 1987. Reducing the number of events allows even more conservative goals to be established.
- B. SERI is evaluating the installation of an inner fence for the protected area and the potential upgrading of the security computer and closed circuit TV system.

IX. Outages

SERI realizes that, because this area can affect other SALP functional areas, improvements must be achieved during outage conditions. The areas most needing management attention during these conditions are compliance to procedures, preventing ESF actuations while in shutdown and work control improvements. Even though SERI has already taken several actions as a result of lessons learned from previous outages, we believe the additional improvements below can enable us to obtain the level of performance we want to achieve.

- A. A Shift Superintendent (SRO) is assigned to the Scheduling section earlier than before to assist in developing the Outage schedule. The assignment in preparation for the 1989 outage (RF03) was made in July 1988. In addition, the reporting chain of the Outage Scheduling Superintendent was changed from the Manager of Plant Maintenance to Manager of Plant Operations. This will provide more Operations involvement in developing the outage schedule.
- B. To the extent possible SERI intends to reuse those contractor personnel who have good performance records in previous outages.
- C. Financial incentives have been incorporated in some contracts to improve contractor personnel performance and adherence to procedures.
- D. Continuous coordination by Operations will be maintained until completion of the power ascension testing.
- E. Experienced SROs are to be assigned as tagging coordinators to ensure better reviews of tagouts and to maximize reusing previously approved and used tagouts.
- F. SERI intends to use pre-approved bus outage procedures which are developed specifically to prevent inadvertent ESF actuations during bus outages.
- G. Experienced SROs are to be assigned off-shift at all times during the outage to help coordinate outage activities.
- H. Starting with RF03, the GGNS Site Outage Manual is to be issued for each refueling outage. The manual is targeted for the contractor who is not familiar with Grand Gulf procedures. It will provide a concise collection of important information such as references, phone numbers, locations, and methods for successfully executing a refueling outage. The manual does not replace or supersede any procedures, directives or policies. It is simply a convenient compilation of need-to-know information for personnel participating in the refueling outage.

- I. In a further effort to improve our performance, SERI has sent key outage control personnel to European plants to observe their outage management process. Areas observed included planning and scheduling, radiological controls, operations interface and conduct of work. Lessons learned are to be factored into the SERI work control process.
- J. Several improvements have been made to focus on better control of special tests, evolutions, and conditions. Plant procedures controlling the preparation of modification special tests have been revised to require an SRO review of certain tests. (See discussion under item V.D.) Further procedural guidance is now in place to provide for the development of special control measures in the event that a condition is not specifically addressed in current procedures. (For example, this process would require the development and implementation of special instructions to deal with the operation of the offgas treatment system with a filter bed bypassed.)
- K. SERI has invested significant effort into developing and implementing a conservative philosophy in planning and executing refueling outages. Key aspects of that philosophy were discussed with the NRC in a meeting held on August 15, 1988. Management is involved in planning and outage decision making. A formal position statement describes specific measures adopted to ensure the adequacy of power supplies, decay heat removal and other aspects that relate to safe outage execution.

X. Quality Programs and Administrative Controls Affecting Quality

The SALP report noted "the licensee was hesitant to document" all significant personnel errors and equipment failures and the program failed "to identify some significant deficiencies." SERI recognizes the need to improve performance in identifying and documenting problem areas so review and analysis can be performed to ensure appropriate actions are taken to minimize recurrence of similar problems. SERI has initiated the following additional management controls in this area:

- A. As a result of a SERI management concern, the Safety Review Committee (SRC) mandated that the Independent Safety Engineering Group perform a separate analysis of all Incident Reports written between January 1987 and May 1988. This analysis used the terminology and methodology specified in the SERI Root Cause Determination policy to analyze incident reports and reclassify the cause categories. A comprehensive report to the SRC was prepared and submitted for their consideration. Subsequently the SRC has mandated that appropriate corrective action plans be developed to enhance improvement in the three significant areas identified: written communications, inherent defects, and work practices.
- B. Controls have been established whereby maintenance technicians must document abnormalities discovered during performance of surveillance procedures. Once documented, appropriate engineering

reviews are required to evaluate and determine proper actions to be taken. These controls are in addition to the controls already established to document nonconformances.

- C. Problems and concerns are now being discussed at the General Manager's Daily Planning meeting with emphasis on critically analyzing the need to document problems and concerns to ensure adequate followup and resolution.
- D. A SERI policy on Root Cause Determination has been developed and will be implemented. Determination of root cause of significant events is expected to enhance our goal of reducing recurrence of similar problems such as failure to follow procedure and repeated personnel errors.
- E. Comments under the Surveillance section address methods recently implemented to address tolerance acceptance criteria.
- F. Comments under the Plant Operations section address implementing a Human Performance Evaluation System intended to focus on and reduce personnel errors.
- G. The Quality Programs department has revised the Quarterly Trend Report to Management to include trending of personnel errors and procedure violations in greater detail to pinpoint areas for improvement.

XI. Licensing

The SALP report raised several concerns over SERI submittals related to proposed changes to technical specifications in the area of timeliness of requests/responses and acceptability of No Significant Hazards Consideration

A. Timeliness of Submittals

To address NRC concerns regarding timeliness of technical specification submittals, SERI will increase the frequency of meetings and conference calls with the NRC during times of heavy workload (especially prior to outages) on agreed upon schedules. The increased interface frequency will provide for:

1. establishing definitive submittal schedules,
2. keeping NRC apprised of progress,
3. facilitating resolution of resource, technical, or schedule issues.

B. No Significant Hazards Consideration (NSHC)

SERI proposes the following actions to address the NRC concerns regarding acceptability of the NSHC portion of technical specification changes.

1. SERI will develop a format and content guidance document for submittals containing proposed changes to the technical specifications. This document will include specific guidance on preparation of NSHC determinations.
 2. SERI is also evaluating the development of training on accident/transient analyses for licensing staff and other key personnel involved with the preparation of proposed changes to the technical specification.
- C. Immediate Notification and Licensee Event Reports (10CFR50.72 and 10CFR50.73)

As discussed with the NRC in the July 22, 1988 SALP presentation meeting, SERI believes that additional NRC guidance on 10CFR50.72 and 10CFR50.73 is warranted at this time. The initial workshops and discussions on reporting requirements that resulted in NUREG 1022 were very beneficial. Now that the industry has several years of experience, SERI recommends that the NRC consider a followup effort to NUREG 1022. SERI believes that there are numerous areas where guidance would facilitate understanding and consistent implementation of the rules and avoid unnecessary reporting. From time to time SERI has pointed these areas out in its 10CFR50.73 or related reports (References: AECM-86/0391, AECM-87/0152, and AECM-88/0084). SERI intends to review its experience in this area, file a report that collects previous comments on 10CFR50.72 and 10CFR50.73, and provide any other observations regarding areas that could profit from additional NRC guidance.

XII. Training

SERI actions associated with the SALP comments are discussed below.

- A. The SALP report noted, "Several weaknesses identified during the May 1987 operating exam related to operators improperly paralleling diesel generators to the electrical buses." SERI has reviewed the training given to candidates on paralleling electrical loads, including diesel generators, and has determined it to be adequate.

The May 1987 examination report (50-416/OL-87-01) listed three generic observations associated with candidates' performance on the simulator examination. The observation from which the SALP comment was taken dealt with three candidates paralleling the diesel generator with excessive reactive load. The observation stated that the problem appeared to be twofold:

- 1) The candidates' attention to detail (matching incoming voltage with running voltage), and
- 2) Equipment problems (incoming voltage meter resolution).

In following up on these observations SERI discovered that this problem was unique to the Division III EDG. Further investigation revealed that the Division III EDG incoming voltmeter was out of calibration and as a result was reading approximately 200 volts low. This meant that when voltages were matched during the paralleling operation, the incoming voltage was actually 200 volts higher than the running voltage. This is what caused the KVARs meter to peg when Division III EDG output breaker was closed. Subsequent to this investigation a simulator discrepancy report was written and this problem was resolved.

- B. The SALP report commented, "The training program has not yet embodied blackout recovery or actions to take to limit the event." The Training Department presents scenarios during simulator training that require the operator to respond to various losses of power within the plant's electrical distribution system. These scenarios require the execution of the Loss of AC Power Off-Normal Event Procedure. During the PRA assessment a blackout scenario was run on the operating crew with satisfactory results. Although the crew's performance was satisfactory, it was noted by the NRC that the crew's response to the blackout was not as well coordinated as the performance on the ATWS scenario.

Training will incorporate specific blackout type events in the 1989 requalification training to improve the operator's ability to cope with the blackout situation.

- C. SERI is staying informed of the progress being made by NUMARC and the NRC toward establishing appropriate guidelines for 10CFR50.59 safety evaluations. When the guidelines are issued, any necessary retraining will be identified and scheduled.
- D. Modifications have been made to the Requalification Training Program based on feedback and evaluation. Simulator training is now included in each training cycle instead of being held separately. Management involvement in simulator critiques has been increased, the simulator critique methodology has been improved, management standards have been developed which more clearly define the roles of control room positions (RO/SRO), and learning objectives and supporting performance criteria have been improved.

XIII. Engineering

- A. The SALP report noted that some engineering evaluations were not conducted to the depth required to identify the root cause and implement adequate corrective actions.

SERI believes that the thoroughness and completeness of engineering evaluations has steadily improved since the last SALP reporting period. There are several examples where the thoroughness of a Nuclear Plant Engineering (NPE) evaluation led directly to the discovery and correction of design deficiencies (e.g., tornado check dampers, diesel generator tubing supports).

However, SERI agrees that the cases noted in the SALP report reflect a need for continued improvement in this area. NPE management will continue to emphasize the quality of all design engineering activities as a central value in the organization. In addition, technical training opportunities such as systems training will be pursued to continue to sustain the improvement in the technical depth of NPE.

- B. The SALP report noted that inadequate drawings contributed to events at GGNS and indicated that despite significant improvement there is need for further improvement.

SERI believes the completion of the extensive As-Built Improvement Plan on December 31, 1987 has resulted in a significant improvement in the As-Built Drawing Program.

However, SERI recognizes the importance of sustaining continued improvement in this area. The Nuclear Plant Engineering Department is establishing a Configuration Management Group to provide an increased focus on as-built drawing and configuration control issues. NPE will perform additional selected system and DCP implementation walkdowns during RFO3 to assess drawing accuracy and configuration control. The completed As-Built Improvement Plan actions focused mainly on operations critical or sensitive drawings. NPE has underway in 1988 and 1989 a number of actions to enhance the lower tier drawings (non-operations critical/sensitive).

- C. SERI provided information on 10CFR50.49 corrective actions by letter (AECM-88/0095) dated May 16, 1988.