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November 2, 1984

84 NOV -5 P12:02

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In the Matter of
Louisiana Power & Light Company
(Waterford Steam Electric Station, Unit 3)
Docket No. 50-38206

Dear Administrative Judges:

On October 29, 1984 I submitted to you and the parties information related to the basemat issue and stated that additional information would be submitted to the staff on October 31. Enclosed for your information is LP&L's October 31 response to

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PDR ADOCK 05000382
PDR
G

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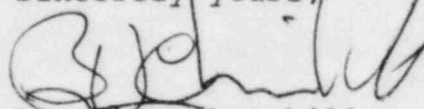
Administrative Judges

Page Two

November 11, 1984

Issues 10 and 20 of the staff's June 13, 1984 letter relating to the qualifications of inspectors and test personnel for concrete and soil backfill. Also enclosed is an October 31 letter to the staff which confirms the plant's readiness for fuel loading. That letter includes in its Attachment A information relating to Issues 10 and 20.

Sincerely yours,



Bruce W. Churchill
Counsel for Applicant

Enclosures

cc: Sherwin E. Turk, Esq.
Carole H. Burstein, Esq.
NRC Docketing and Service Section(3)

RESPONSE

ITEM NO.: 10

TITLE: Inspector Qualification (J.A. Jones and Fegles)

NRC DESCRIPTION OF CONCERN:

The NRC staff reviewed the qualification and certifications of QC inspectors in the civil/structural area. The review included the qualifications of four Ebasco inspectors, five J.A. Jones inspectors, and eight Fegles inspectors. The inspector qualifications were compared against the requirements of ANSI N45.2.6 and the contractor's procedures.

The staff found that four of the five J.A. Jones inspectors and two of the eight Fegles inspectors failed to meet the applicable certification requirements related to relevant experience. Since these inspectors were involved in the inspection of safety-related activities, the fact that they may not have been qualified to perform such inspections, renders the quality of the inspected construction activities as indeterminant.

LP&L shall review all inspector qualifications and certifications for J.A. Jones and Fegles against the project requirements and provide the information in such a form that each requirement is clearly shown to have been met by each inspector. If an inspector is found to not meet the qualification requirements, the licensee shall then review the records to determine the inspections made by the unqualified individuals and provide a statement on the impact of the deficiencies noted on the safety of the project.

DISCUSSION:

A verification program⁸ was implemented to review the professional credentials of 100% of the site QA/QC personnel who may have performed safety-related functions at Waterford 3, including supervisors, managers and remaining QA/QC personnel. The responses to Issues No. 1 and 20 discuss inspector qualifications for Waterford 3 contractors other than J.A. Jones and Fegles.

The program, which is being performed under the overall direction of LP&L, consists of three major elements:

- o Collection and verification of personnel data.
- o Evaluation of qualifications against specified standards.
- o Dispositioning of deficiencies resulting from cases where inspections and tests were conducted by personnel whose qualifications against the appropriate standards could not be confirmed.

Collection and Verification of Personnel Data

Personnel data were collected from various sources, including site files, contractor home office files, personal contact with individuals or supervisors and through a background verification program.

Efforts were made to verify the education and work experience of 100% of the J.A. Jones and Fegles QA/QC personnel by researching Waterford 3 contractor records and by contacting schools, former employers and others. The background verification effort for J.A. Jones and Fegles personnel was a joint LP&L/Ebasco effort. While the success rate of this effort was good, there were cases where confirmatory information was not obtainable. In such cases, the judgement of the LP&L Review Board, as described below, was used to rule on the reliability of the available information.

Evaluation of Qualifications to Specified Standards

QA/QC personnel data were evaluated in order to classify individuals as either having verified qualifications or not. Training, education and work experience were the qualifications of primary concern. These qualifications were verified against the following criteria:

- (1) Inspectors - ANSI N45.2.6-1973
- (2) Other QA/QC Personnel - QA Program requirements

Initial qualification determinations for J.A. Jones and Fegles QA/QC personnel were performed first by Ebasco and then separately by an LP&L review group. In order to control the consistency of these determinations, approved procedures were utilized. Determinations related primarily to balancing education, experience and training factors.

The LP&L review group qualification determinations were rendered in two categories: "qualified" and "potentially not qualified". "Potentially not qualified" determinations were referred to an LP&L Review Board comprised of senior LP&L QA personnel. The Review Board determinations were further reviewed by a contracted individual very familiar with inspector qualification and related standards. This process resulted in a final determination for all QA/QC personnel as either "qualified", or "unqualified".

The qualification review process is described in QASP 19.12 and QAI-32. The following points further clarify the process:

1. The meaning of the term "unqualified" must be amplified. In some cases determinations were made that, based on verified data, individuals' backgrounds did not warrant qualification to ANSI N45.2.6-1973. In other cases, however, individuals were considered "unqualified" as an expedient in reaching resolution to the concern. This occurred in cases in which:

- a. Research of records, inquiries to past employers and employees, contact with schools and verification of training received was either not possible or could not be concluded in a reasonable period of time.
 - b. Apparent discrepancies existed between background information provided by some individuals and that obtained in the verification process, and resolution could not be achieved on a timely basis. Minor discrepancies were excused; however, significant discrepancies generally rendered any other significant but unverified data as suspect.
2. In the process used, being judged as "unqualified" to ANSI N45.2.6-1973 did not automatically render the individual's work as invalid. For example, an individual may not have the education and experience qualifications for all inspection work, yet be fully competent through specific training or other means to perform the particular tasks assigned to him, which might have been very simple and repetitive in nature. Such an individual potentially satisfies ANSI requirements, which ultimately require that an individual's qualifications be sufficient to provide reasonable assurance that the individual can competently perform a particular task. Whether or not the individual is technically qualified, the individual's work can be deemed valid.
3. During the construction period, some contractors made undocumented judgements with respect to the need for eye examinations for inspection personnel. Such judgements were based on the level of visual acuity or color perception required to achieve competent inspections. Such judgements were also made as part of the verification program and disposition process and will be documented. It is noted that such judgements are specifically suggested in ANSI N45.2.6-1978. This factor was not deemed disqualifying.

Disposition of Deficiencies

For J.A. Jones and Fegles, the LP&L Review Board compiled a list of "unqualified" inspector personnel, and Corrective Action Requests (CAR) were written to formally track and disposition potential deficiencies. Limited background verification efforts remain for J. A. Jones and Fegles personnel. Should completion of the verification cause a change in the results, the response will be amended accordingly.

Included in Attachment 1 are the verification program results for J.A. Jones and Fegles.

For J.A. Jones, CAR EQA84-22 identified 25 QC personnel who performed inspections while not meeting the requirements of ANSI N45.2.6-1973. The construction activities inspected by the identified J.A. Jones personnel with respect to the Common Foundation Basemat and Engineered Backfill were inspected by qualified Ebasco inspectors. Accordingly, inspection by the J.A. Jones personnel does not render the quality of the inspected construction activities as indeterminate. Adequacy of the inspected construction activities was independently confirmed by qualified inspectors. J.A. Jones inspector qualification deficiencies in areas other than the Common Foundation Basemat and Engineered Backfill will be addressed in a supplemental response.

For Fegles, CAR EQA84-20 identified three QC personnel who performed inspections while not meeting the requirements of ANSI N45.2.6-1973. The three individuals performed preplacement inspections on a limited scope of slip form operations. Duplicate preplacement inspections were performed by qualified Ebasco QC inspectors. Accordingly, inspection by the Fegles personnel does not render the quality of the inspected construction activities as indeterminate. Adequacy of the inspected construction activities was independently confirmed by qualified inspectors.

CAUSE:

ANSI N45.2.6-1973 allows substitution for education and experience levels by noting that "... education and experience requirements specified for the various levels should not be treated as absolute when other factors provide reasonable assurance that a person can competently perform a particular task." J.A. Jones and Fegles, to varying degrees, employed such substitutions in certifying the qualifications of their QA/QC personnel. However, the verification program revealed that verification of background data was not adequate or documented, documentation of the justification for substitution was sometimes not provided or lacked depth, and/or was not always totally in accord with J.A. Jones/Fegles procedures or the ANSI standards, as currently interpreted.

GENERIC IMPLICATIONS:

This issue has been treated generically. In response to this Issue and Issues 1 and 20, the verification program included 100% of the QA/QC personnel of all site contractors who performed safety related work.

With regard to future work, qualification and certification of inspectors (including NDE personnel) will be administered through strict compliance with LP&L Nuclear Operations Procedures which meet the requirements of Regulatory Guide 1.58 Rev. 1 (ANSI N45.2.6-1978) and SNT-TC-1A-1975, as applicable.

SAFETY SIGNIFICANCE:

Satisfactory disposition of CAR #EQA84-16 (J.A. Jones) and CAR #EQA84-7 (Fegles) will provide adequate assurance that the installations by J.A. Jones and Fegles will perform satisfactorily in service.

CORRECTIVE ACTION PLAN/SCHEDULE:

Corrective actions required to disposition CAR EQA84-22 (J.A. Jones) are in progress. The CAR EQA84-20 (Fegles) corrective action has been satisfactorily completed as described in Attachment 1. To date, no items of safety significance have been identified. It is currently anticipated that the dispositions of QA/QC personnel qualification issues will be completed by November 21, 1984.

ATTACHMENTS:

1. Results of Verification Program for J.A. Jones and Fegles.

REFERENCES:

1. QASP 19.12, Review of Contractor QA/QC Personnel Qualification Verification
2. QAI-32, Instructions for Verification of QA/QC Personnel Qualifications

ATTACHMENT 1

A. J.A. JONES

1. On-Site Dates: October 1975 to March 1981
2. Scope of Work:
 - a. Concrete Construction
 - b. Concrete Masonry
 - c. Concrete Reinforcing Steel
 - d. Dewatering and Excavation
 - e. Waterproofing
 - f. Waterstops
 - g. Mechanical Splicing of Reinforcing Steel
 - h. Filter and Backfill
 - i. Structural Steel
3. Scope of Inspections:
 - a. Material Receiving Inspection
 - b. Site Fabrication Assembly & Installation Inspections
 - c. Structural Inspections
 - d. Civil Inspections
4. QA Program Requirements/Contractual Commitment:
 - a. QA/QC Personnel, except Auditors, ANSI N45.2.6 and Manual TR-1, "Training/Certification Program", Procedure POP-N-505, "Qualification/Certification of Personnel" and Procedure POP-N-702, "Personnel Training/Qualification/Certification".
 - b. Q.A. Auditors - ANSI N-45.2.23 and Manual TR-1, "Training/Certification Program", and Procedure POP-N-505, "Qualification/Certification of Personnel" and Procedure POP-N-702, "Personnel Training/Qualification/Certification".
5. Inspector Qualification and Dispositioning of Deficiencies:

The Verification Program identified 25 J.A. Jones personnel who performed inspections and whose qualifications were determined as not meeting the requirements of ANSI N45.2.6-1973. Corrective Action Request EQA84-22 was initiated to track the disposition of this deficiency.

A review of the work of the identified J.A. Jones inspectors has been completed with respect to the Common Foundation Basemat, including cadwelds. This review also included the identification of overinspection performed by qualified Ebasco inspectors who inspected the construction of the Common Foundation Basemat.

Where an inspection activity was performed by an identified J.A. Jones inspector, the qualifications of the Ebasco inspector who performed the overinspection of the same activity was checked. In this manner it was demonstrated that each of the Common Foundation Basemat placements were inspected by one or more qualified inspectors.

The reinforcing bar cadwelds which were inspected by J.A. Jones have also been addressed in the response to NRC Concern No. 11 for the entire WPIS. The cadwelds are deemed acceptable.

The structural backfill inspections performed by J.A. Jones were overinspected by qualified Ebasco inspectors. In addition, statistical studies were performed which demonstrate the consistency of the work.

The clam shell Filter Blanket quality was addressed in NCR-W3-5997 including addressing the uncertified J.A. Jones inspectors. The Blanket was found acceptable.

Accordingly, inspection by the J.A. Jones personnel does not render the quality of the inspected construction activities as indeterminate. Adequacy of the inspected construction activities was independently confirmed by qualified inspectors. J.A. Jones inspector qualification deficiencies in areas other than the Common Foundation Basemat and Engineered Backfill will be addressed in a supplemental response.

Completion of the review of the work of the concrete inspectors on the balance of the J.A. Jones construction activities is expected by November 9. This report will be supplemented at that time to reflect the findings of that review.

ATTACHMENT 1

B. FEGLES

1. On-Site Dates: December 1975 to August 1976 (Shield Wall)
February 1979 to February 1980 (Dome)
2. Scope of Work:
 - a. Designing, furnishing, fabricating, erecting and dismantling slip forms for shield wall construction and conventional formwork and supports for dome construction.
 - b. Handling, placing and fastening reinforcing steel.
 - c. Detail reinforcing steel for shield wall slip form construction.
 - d. Handling, placing and setting to line and grade all items to be embedded in the shield wall and in the dome.
 - e. Forming for blockouts in shield wall, installing waterstop, removing forms and patching voids or honeycomb areas.
 - f. Placing, finishing and curing concrete by the slip form method for the shield wall and the dome by conventional 2 stage construction.
3. Scope of Inspections:
 - a. Material receiving inspection
 - b. Form erection inspection
 - c. Placement area preparation inspection
 - d. Concrete placement inspection
 - e. Concrete finishing and curing inspection
 - f. Concrete repair inspection
 - g. Dome form decentering inspection
 - h. Reinforcing steel placement inspection
4. QA Program Requirements/Contractual Commitments:

Fegles - Shield Wall Construction: December 1975 to August 1976

 - a. QA/QC Personnel except Auditors - ANSI N45.2.6 and Fegles Procedure QAP-303, "Quality Assurance Plan" and QAP-303 Supplement #2, "Personnel Qualifications".
 - b. QA Auditors - QA auditor must be a Corporate QA Manager.

Fegles - Dome Construction: February 1979 to February 1980

 - a. QA/QC Personnel except Auditors - ANSI N45.2.6 and Fegles Procedure QAP-303.21, "Qualification of Inspection Personnel".
 - b. QA Auditors - QA Auditor must be a Corporate QA Manager (Level III).

5. Inspector Qualification and Dispositioning of Deficiencies:

The Verification Program identified three Fegles QC personnel (out of the original seven (7) identified on CAR EQA84-20) who performed quality inspections and whose qualifications were determined as not meeting the requirements of ANSI N45.2.6-1973. Corrective Action Request EQA84-20 was initiated to track the disposition of this deficiency.

Ebasco QA has determined that these three Fegles QC personnel were involved only with the slip form operations (placement series G-511) from April to May of 1976. The three Fegles QC inspectors only performed preplacement inspections. These inspections were documented on the preplacement checklist. Further research concluded that although these three individuals did perform inspections, qualified Ebasco QC inspectors performed 100% duplicate preplacement inspections.

Accordingly, inspection by the Fegles personnel does not render the quality of the inspected construction activities as indeterminate. Adequacy of the inspected construction activities was independently confirmed by qualified inspectors.

RESPONSE

ITEM NO: 20

TITLE: Construction Materials Testing (CMT) Personnel Qualification Records

NRC DESCRIPTION OF CONCERN:

The Inquiry Team effort included a review of the disposition of the generic problem identified during the LP&L Task Force verification relative to GEO Construction Testing (GEO) documentation for personnel qualifications in the area of CMT.

The utility should conduct a review of supporting documentation for GEO corrective action stated in Attachment 6 of NCR W3-F7-116 (Ebasco W3-6487). This review should focus on the identification of CMT personnel placed in GEO Categories 1, 2, or 3 who were apparently qualified solely on written statements by other individuals attesting to the individuals training and qualifications. For such individuals, the applicant should pursue any new information or evaluations which could provide further assurance in support of the actual past work experience and training referenced by the written statements.

DISCUSSION:

As requested by the staff, LP&L has pursued and obtained additional information on the GEO individuals performing inspections and tests as will be explained in the sections of this response entitled "Collection and Verification of Personnel Data" and "Disposition of Deficiencies". Also, evaluations have been made of work performed by GEO personnel as briefly outlined herein.

A verification program was implemented to review the professional credentials of 100% of the site QA/QC personnel who may have performed safety-related functions at Waterford 3, including supervisors, managers and remaining QA/QC personnel. Assessment of the qualifications of all GEO Construction Material Testing (CMT) personnel, including those identified in Attachment 6 of Ebasco NCR W3-6497 (the NRC reference to Ebasco NCR W3-6487 is apparently a typographical error), was a part of that verification program.

The responses to Issues No. 1 and 10 discuss inspector qualifications for other Waterford 3 contractor personnel.

The program, which is being performed under the overall direction of LP&L, consists of three major elements:

- o Collection and verification of personnel data.
- o Evaluation of qualifications against specified standards.
- o Dispositioning of deficiencies resulting from cases where inspections, tests or data collection were conducted by personnel whose qualifications against the appropriate standards could not be confirmed.

Collection and Verification of Personnel Data

Personnel data were collected from various sources, including site files, contractor home office files, personal contact with individuals or supervisors and a thorough background verification program.

Efforts were made to verify the education and work experience of 100% of the GEO-CMT QA/QC personnel by researching Waterford 3 GEO-CMT records and by contacting schools, former employers and others. While the success rate of the background verification effort for GEO-CMT was good, there were cases where confirmatory information was not obtainable. In such cases, the judgement of the LP&L Review Board, as described below, was used to rule on the reliability of the available information.

Evaluation of Qualifications to Specified Standards

QA/QC personnel data were evaluated in order to classify individuals as either having verified qualifications or not. Training, education and work experience were the qualifications of primary concern. These qualifications were verified against the following criteria:

- (1) Inspectors - ANSI N45.2.6-1973
- (2) Other QA/QC Personnel - QA Program requirements

Initial qualification determinations for GEO-CMT personnel were performed first by Ebasco and then separately by an LP&L review group. In order to control the consistency of these determinations, approved procedures were utilized. Determinations related primarily to balancing education, experience and training factors.

The LP&L review group qualification determinations were rendered in two categories: "qualified" and "potentially not qualified". "Potentially not qualified" determinations were referred to an LP&L Review Board comprised of senior LP&L QA personnel. The Review Board determinations were further reviewed by a consultant very familiar with inspector qualification and related standards. This process resulted in a final determination for all QA/QC personnel as either "qualified", or "unqualified".

The qualification review process is described in QASP 19.12 and QAI-32. The following points further clarify the process:

1. The meaning of the term "unqualified" must be amplified. In some cases determinations were made that, based on verified data, individuals' backgrounds did not warrant qualification to ANSI N45.2.6-1973. In other cases, however, individuals were considered "unqualified" as an expedient in reaching resolution to the concern. This occurred in cases in which:
 - a. Research of records, inquiries to past employers and employees contact with schools and verification of training received was either not possible or could not be concluded in a reasonable period of time.

- b. Apparent discrepancies existed between background information provided by some individuals and that obtained in the verification process, and resolution could not be achieved on a timely basis. Minor discrepancies were excused; however, significant discrepancies generally rendered any other significant but unverified data as suspect.
2. In the process used, being judged as "unqualified" to ANSI N45.2.6-1973 did not automatically render the individual's work as invalid. For example, an individual may not have the education and experience qualifications for all inspection work, yet be fully competent through specific training to perform the particular tasks assigned to him, which might have been very simple and repetitive in nature. Such an individual potentially satisfies ANSI requirements, which ultimately require that an individual's qualifications be sufficient to provide reasonable assurance that the individual can competently perform a particular task. Whether or not the individual is technically qualified, the individual's work can be deemed valid.
3. During the construction period, GEO made undocumented judgements with respect to the need for eye examinations for inspection personnel. Such judgements were based on the level of visual acuity or color perception required to achieve competent inspections. Such judgements were also made as part of the verification program and disposition process and will be documented. It is noted that such judgements are specifically suggested in ANSI N45.2.6-1978. This factor was not deemed disqualifying.
4. Some individuals were classified as inspectors but performed no safety related inspections and were otherwise not involved in quality related work. To the extent such individuals were identified, they were excluded from the overall inspector population.

Disposition of Deficiencies

For those individuals found "unqualified" the LP&L review board initiated Corrective Action Request (CAR) EQA84-11 to formally disposition the identified deficiencies. Ebasco NCR-W3-6497 will be reopened to reflect the disposition of that CAR.

Disposition of CAR EQA84-11 was accomplished by 3 methods as follows:

- 1) Assessment of Key CMT tests and of skills required to perform these tests.

The key tests were as follows:

- a) Concrete - The most important test is the final cylinder break test as this test serves to confirm the strength of the concrete actually placed in the structure. Other tests on concrete are generally either performed as measures to avoid subsequent replacement of sub-specification concrete or were performed in collecting the concrete for and preparing of the test cylinders. The break test requires minimal skill in setting up and starting a compression device which compresses a pre-molded cylinder to failure. A large gauge records the force required which is easily translated into the data required.

Further confidence in the quality of the as-built material is provided by the fact that improper operator action would tend to degrade test results, i.e., improper testing would cause the concrete to appear less strong than it actually is.

- b) Soils - The most important test is the field density test as it measures whether the backfill material has been compacted to specific requirements. The field portion of the work, which was performed by the technician, consisted of digging a small hole and placing the removed soil in an airtight container, positioning a rubber balloon apparatus over the hole, inflating the balloon to a predetermined pressure and reading a volume indicator scale.

Further, confidence in the quality of the as-built material is provided by the quantity of tests conducted. As stated in the engineering report supporting the response to issue 7, to insure control of backfill placement approximately three times as many field density tests were conducted as required by the technical specifications.

- c) Cadwelds - There was only one test on cadwelds conducted by GEO-CMT and that was the break test. This test is as simple as the concrete break test. The test specimens are secured in a tension device, tension is applied and the failure strength is read from a gauge and recorded.

The review indicates all cadweld tests were conducted by personnel qualified to ANSI 45.2.6 (73)

It has been determined that only minimal training would be required for an unskilled individual to become proficient in performing the above tests. A single demonstration coupled with minimal practice under proper supervision is sufficient. GEO has formally confirmed that "Prior to being assigned to production work, all personnel were trained to perform the work required." On the basis of the above, though not strictly qualified to ANSI N45.2.6-1973, individuals could be considered competent to perform the technician or data collection type functions described.

2) Quality of Testing Performed by Personnel in Question

A detailed analysis was conducted of inspection/testing performed by a large sample of Level I personnel in question. This sample is felt to include the most significant exposure in terms of potential for inferior inspection/testing. Level II and III personnel either performing or directly supervising the performance of the tests described above should be competent to perform such functions.

3. Engineering Evaluation

A statistical analysis was conducted, using industry standard techniques, to evaluate test results for concrete and the class A backfill (Reference 3). In the case of concrete both the overall and within-test coefficients of variation demonstrated excellent control of the product which would not be the case had the tests not been well conducted. Backfill test results also demonstrate good consistency. This evaluation verifies the overall adequacy of the work of all levels, Levels (I, II and III) of GEO-CMT QC personnel.

As stated before, all cadweld tests were conducted by personnel considered qualified.

CAUSE:

Implementation of ANSI N45.2.6-1973 allows substitution for education and experience levels by noting that "... education and experience requirements specified for the various levels should not be treated as absolute when other factors provide reasonable assurance that a person can competently perform a particular task." GEO and its predecessor organizations issued certifications of qualifications for testing personnel under successive programs which employed such substitutions and which became more detailed and better documented with time. The program in place since 1978 generally parallels the ANSI Standard for inspector certification. However, the verification program revealed that verification of background data was not adequate or documented, documentation of the justification for substitution of other factors for the requisite degree of training, education or experience was sometimes not provided, lacked depth, was not totally in accord with contractor procedures or the ANSI standard, as currently interpreted.

GENERIC IMPLICATIONS:

This issue has been treated generically. The scope of the verification program included 100% of the QA/QC personnel of all site contractors who may have performed safety-related work, including GEO CMT personnel.

With regard to future work, qualification and certification of inspectors (including NDE personnel) will be administered through strict compliance with LP&L Nuclear Operations Procedures which meet the requirements of Regulatory Guide 1.58 Rev. 1 (ANSI N45.2.6-1978) and SNT-TC-1A-1975, as applicable.

SAFETY SIGNIFICANCE:

The results of the verification program and evaluation of the work performed by "unqualified" GEO CMT personnel provides reasonable assurance that the related installations will perform satisfactorily in service. There is no recognized reason that this issue should constrain fuel load or power operation.

CORRECTIVE ACTION PLAN/SCHEDULE:

On the basis of Reference 3, CAR EQA84-11 has been dispositioned.

REFERENCES:

1. QASP 19.12, Review of Contractor QA/QC Personnel Qualification Verification
2. QAI-32, Instructions for Verification of QA/QC Personnel Qualifications
3. Engineering Evaluation of Report on the Review and Analysis of the work of GEO - Construction Material Testing.



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October 31, 1984

J.M. CAIN
President

W3P84-3086
3-A1.01.04
A4.05

Director of Nuclear Reactor Regulation
ATTN: Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: WATERFORD 3 SES
REQUEST FOR OPERATING LICENSE

- REFERENCES
- 1) Letter W3A84-0133, J.M. Cain to D.G. Eisenhut,
dated October 5, 1984
 - 2) Letter, D.G. Eisenhut to J.M. Cain, dated June 13, 1984
 - 3) Letter W3B84-0807, J.M. Cain to D.G. Eisenhut,
dated October 31, 1984

On October 5, 1984, I submitted a request for authorization to load fuel and perform pre-criticality hot functional testing, subject to our completion of the pertinent elements of the Licensing Program Plan and other identified activities. This is to inform you that Waterford-3 is physically complete and ready for fuel loading.

Responses to all of the 23 issues identified by the NRC in Reference 2 have now been submitted. While the responses to Issues 1, 6 and 10 will be supplemented in November (see Reference 3), the current status of our resolution of the issues fully supports issuance of an operating license conditioned to preclude initial criticality until the NRC has fully resolved the 23 issues. This position represents our desire to confirm LP&L's confidence in the hardware acceptability to the NRC and the public served by LP&L prior to going critical and proceeding with the low power testing and power ascension program. The lack of fission products and decay heat, prior to initial criticality, assure that no significant hazard exists for fuel loading and subsequent pre-criticality testing.

The safety reviews of plant systems against each of the 23 NRC issues described in Reference 1 have been completed for the systems required by Technical Specifications for Modes 6 through Mode 3 (Fuel Load and Post-core Hot Functional Testing). As presented in Attachment A, only three instances were determined to require a limited safety review. A limited safety review is defined as a

Mr. Darrell G. Eisenhut:

W3P84-3086

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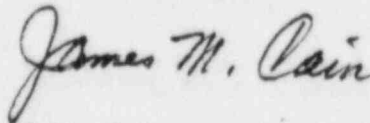
safety review in which the basis for the evaluation requires that credit must be taken for lack of fission products and decay heat. An additional safety review would be performed prior to initial criticality. In these instances the resolution of the issues were evaluated to be sufficient to proceed with operation in Modes 6 through 3. Further resolution would be a prerequisite to removing the limitation on initial criticality. Attachment B provides a summary of the safety reviews performed for the systems required by the Technical Specifications for operation in Mode 2 and Mode 1 (initial criticality to full power operation).

Attachment D of Reference 1 included a listing of licensing commitments, significant construction deficiencies, inspection report open items and fuel load prerequisite system completion work items. These items, with the exception of items listed in Attachment C, have been completed by LP&L or have been judged not to be truly prerequisite to fuel load and post-core hot functional testing. These judgements, which are few in number, have been reviewed with the Resident NRC Inspectors.

An additional area which must be addressed relative to actual fuel load is completion of the surveillances required by Technical Specifications prior to entering Mode 6 (Fuel Load). These surveillances are basically complete, as presented in Attachment C. Completion of prerequisite surveillances for Modes 5, 4 and 3 are not expected to impact the performance of post-core hot functional testing.

Your timely action on this matter is requested. With both the plant and its staff in their current state of readiness, our ability to begin fuel loading and pre-criticality testing in the near term will avoid unnecessary delays in the schedule for achievement of commercial operation.

Sincerely,



J.M. Cain

JMC:KWC:sms

Attachments

cc (with Enclosure): R.S. Leddick, D.E. Dobson, K.W. Cook,
J.T. Collins (NRC), D. Crutchfield (NRC),
G. Knighton (NRC), G. Charnoff, L.L. Humphreys,
R.L. Ferguson, J. Wilson (NRC), L. Constable (NRC),
Project Files

ATTACHMENT A

SAFETY REVIEWS OF PLANT

SYSTEMS REQUIRED BY

TECHNICAL SPECIFICATIONS FOR

FUEL LOADING AND PRECRITICALITY

POST-CORE LOAD HOT FUNCTIONAL

TESTING

LICENSING PLAN FOR
FUEL LOADING AND PRECRITICALITY
POST CORE LOAD HOT FUNCTIONAL TESTING

A Licensing Program Plan has been structured to institute safety reviews of those plant systems required for fuel load and post fuel load testing, criticality and low power testing (to 5% power) and full power operation.

A detailed review of the technical specifications was performed to determine the listing of plant systems required for fuel loading and post-core hot functional testing under the limited license (Table A-1). Forty-nine plant systems have been identified as being required to be operable by Waterford SES #3 technical specifications in modes 6, 5, 4, 3 (refueling through hot standby) and these systems are the subject of this Attachment (Attachment A). These are the modes involved with fuel load and pre-criticality, post fuel load hot functional testing. This is a conservative approach because many of these requirements assume the presence of irradiated fuel and therefore are not of significance to the initial core loading and testing processes. This program will assure LP&L management that the impact of any concern raised is properly assessed and resolved in the context of safe plant operations and protection of the public health and safety as will be specified in our operating license/standard technical specifications and FSAR.

Safety reviews were performed on each of the plant systems in Table A-1, against each of the 23 issues (Table A-2). Table A-3 provides a complete matrix indicating those safety reviews which have been successfully completed. Table A-4 provides the footnotes associated with the Table A-3 matrix indicating outstanding actions required to complete the matrix. Where successful completion of the safety review is indicated in Table A-3, the safety review assures completion of those actions necessary to insure the system is constructed and functions according to the requirements of the FSAR in light of the 23 issues, without consideration of the lack of fission products (due to not having gone critical). In three instances it was judged to be necessary to perform limited safety reviews (credit must be taken for lack of fission products in order to justify safety significance). The matrix references a footnote describing the circumstances and basis for the limited review for each of the instances.

During the safety evaluation of these 49 fuel load systems they were categorized into subgroups that logically represent the potential issue by issue safety impact. The subgroups are defined in Table A-6 as:

- A. The issue does not have a safety related effect on the system because:
 - a) the contractor in question did not do work on the system under evaluation, or
 - b) the procedure or process in question did not apply to the system under evaluation.
- B. The issue does not have a safety related effect on the system because:
 - a) the contractor in question did not do any safety related work on the system under evaluation, or the procedure or process in question did not apply to any safety related portions of the system under evaluation, and
 - b) any non-safety related activities performed on the system of concern does not have any significant effect on the safety related function of the system under evaluation.
- C. The issue does have a potential safety related effect on the system because:
 - a) the contractor in question did work of safety significance on the system under evaluation, or
 - b) the procedure or process in question did apply to safety significant activities of the system under evaluation.

Safety evaluations were performed and verified (as necessary) to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public. The subgroup for each system, as it relates to each of the twenty-three issues, is presented in Table A-6. In performing the evaluations, it was determined that it would be more effective to subdivide the first issue (Inspection Personnel Issues) into three subissues covering 1A - Mercury, 1B - Thompkins-Beckwith and 1C - Other Contractors. This resulted in effectively 25 issues being evaluated for each of the 49 plant systems. Since this results in a total of 1225 safety reviews (each consisting of several pages) it is not feasible to present all of the documentation in this transmittal. The full documentation of the safety reviews is on file at the Waterford SES #3 On-site Licensing Unit offices for inspection and review by the NRC staff. The individual safety reviews were reviewed and summaries prepared, for those falling within Subgroup C. The summaries are included in this attachment (Table A-5) for each issue and subissue.

TABLE A-1

PLANT SYSTEMS REQUIRED BY TECHNICAL SPECIFICATIONS DURING
FUEL LOADING AND PRE-CRITICAL POST-CORE LOAD HOT FUNCTIONAL TESTING

<u>ACRONYM</u>	<u>SYS. NO.</u>	<u>DESCRIPTION</u>	<u>MODE OPERABILITY IS REQUIRED</u>
DC	02A	125v DC SAFETY	MODE 1-6
MT	03	SWITCHING STATION	MODE 1-6
ST	04	STARTUP TRANSFORMERS	MODE 1-6
4kv	06A	4.16kv ELEC. DISTRIBUTION SAFETY	MODE 1-6
SSD	07A	480v ELEC. DISTRIBUTION SAFETY	MODE 1-6
LVD	08A	208/120v ELEC. DISTRIBUTION SAFETY	MODE 1-6
ID	09A	INVERTERS & DISTRIBUTION SAFETY	MODE 1-6
	10	COMMUNICATIONS	MODE 1-6
HT	13A-1	HEAT TRACE SAFETY	MODE 1-6
EM	16	ENVIRONMENTAL MONITORING	ALL MODES
SM	17	SEISMIC MONITORING	ALL MODES
ARM/RMC/ PRM	18-1 18-2 18-3 18-4 18-5	RADIATION MONITORING SYSTEM	ALL MODES
SS	20	SECURITY SYSTEM	ALL MODES
FPD	21	FIRE DETECTION	ALL MODES
FP	22	FIRE PROTECTION	ALL MODES
CC	36-1 36-2	COMPONENT COOLING WATER	MODE 1-6
ACC	36-3	AUXILIARY COMPONENT COOLING WATER	MODE 1-4
EG	39	EMERGENCY DIESEL GENERATOR	MODE 1-6
CRN	40-2	CRANE & HOIST FHB	MODE 6 ONLY
CCS	43A	RCB CONTAINMENT COOLING	MODE 1-4
SEV	43B	SHIELD BLDG. VENTILATION	MODE 1-4

TABLE A-1

PLANT SYSTEMS REQUIRED BY TECHNICAL SPECIFICATIONS DURING
FUEL LOADING AND PRE-CRITICAL POST-CORE LOAD HOT FUNCTIONAL TESTING

<u>ACRONYM</u>	<u>SYS. NO.</u>	<u>DESCRIPTION</u>	<u>MODE OPERABILITY IS REQUIRED</u>
CVR	43E	CONTAINMENT VACUUM RELIEF	MODE 1-4
HVC	46B	CONTROL ROOM HVAC	ALL MODES
HVR	46D	RAB HVAC	MODE 1-6
CHW	46E	RAB CHILLED WATER	MODE 1-6
FP	46K	FIRE DAMPERS	ALL MODES
CB	48	LRT CONTAINMENT VESSEL	MODE 1-6
PAC	49	PROCESS ANALOG CONTROL	MODE 1-6
IC	50B	MTSC. PANELS	MODE 1-6
RCS	52A 52B 52C	REACTOR COOLANT SYSTEM	MODE 1-6
CVC	53A	CHARGING & LETDOWN	MODE 1-6
BAM	53B	BORIC ACID MAKEUP	MODE 1-6
PSL	54-9	PRIMARY SAMPLING	MODE 1-5
GWM	55A	GASEOUS WASTE MANAGEMENT	ALL MODES
LWM	55B 55E	LIQUID & LAUNDRY WASTE MANAGEMENT	ALL MODES
SI	58 60A 60B 60C	SAFETY INJECTION	MODE 1-6
CS	59	CONTAINMENT SPRAY	MODE 1-4
FHS	61	FUEL HANDLING & STORAGE	MODE 6 ONLY
PPS	66 63	PLANT PROTECTION SYSTEM	ALL MODES
ENI	65A-1 65A-2	EXCORE NUCLEAR INST.	MODE 1-6
CMU	71B	CONDENSATE MAKEUP	MODE 1-3
EFW	73	EMERGENCY FEEDWATER	MODE 1-3

TABLE A-1PLANT SYSTEMS REQUIRED BY TECHNICAL SPECIFICATIONS DURING
FUEL LOADING AND PRE-CRITICAL POST-CORE LOAD HOT FUNCTIONAL TESTING

<u>ACRONYM</u>	<u>SYS. NO.</u>	<u>DESCRIPTION</u>	<u>MODE OPERABILITY IS REQUIRED</u>
SSL	75	SECONDARY SAMPLING	MODE 1-4
SG	76	STEAM GENERATORS & MSIV	MODE 1-4
TUR	88	TURBINE & TURBINE CONTROLS	MODE 1-3
	91	SEISMIC SUPPORTS	ALL MODES
	19-16	WHIP RESTRAINTS	ALL MODES
	19-17	SYSTEM SUPPORTS (HANGERS)	ALL MODES
		SEISMIC STRUCTURES	ALL MODES

SAFETY REVIEW ISSUESISSUE
NO.

- 1 (A) Inspection Personnel Issues - Mercury
(B) Inspection Personnel Issues - T&B
(C) Inspection Personnel Issues - Other Contractors
- 2 Missing NI Instrument Line Documentation
- 3 Instrumentation Expansion Loop Separation
- 4 Lower Tier Corrective Actions are not being Upgraded to NCRs
- 5 Vendor Documentation - Conditional Releases
- 6 Dispositioning of Nonconformance and Discrepancy Reports
- 7 Backfill Soil Densities
- 8 Visual Examination of Shop Welds During Hydrostatic Testing
- 9 Welder Certification
- 10 Inspector Qualifications (J. A. Jones & Fegles)
- 11 Cadwelding
- 12 Main Steamline Framing Restraints
- 13 Missing NCRs
- 14 J. A. Jones Speed Letters and EIRs
- 15 Welding of "D" Level Material Inside Containment
- 16 Surveys and Exit Interviews of QA Personnel
- 17 QC Verification of Expansion Anchor Characteristics
- 18 Documentation of Walkdowns on Non-Safety Related Equipment
- 19 Water in Basemat Instruments
- 20 Construction Materials Testing (CMT) Personnel Qualification Records
- 21 LP&L QA Construction System Status and Transfer Reviews
- 22 Welder Qualifications (Mercury) and Filler Material Control (Site Weld)
- 23 QA Program Breakdown Between Ebasco and Mercury

TABLE A-3 (cont.)

SYSTEMS / ISSUE SAFETY RESOLUTION MATRIX

[illegible]

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[illegible]

SYSTEMS / ISSUE SAFETY RESOLUTION MATRIX

[illegible]

TABLE A-4

SYSTEMS/ISSUES SAFETY REVIEW RESOLUTION MATRIX
FOOTNOTES

OUTSTANDING ACTIONS

NOTE

ISSUE 1A NONE

ISSUE 1B NONE

(1) ISSUE 1C LIMITED SAFETY REVIEW. REQUIRES NEW SAFETY REVIEW PRIOR
TO ENTERING MODE 2.

ISSUE 2 NONE

ISSUE 3 NONE

ISSUE 4 NONE

ISSUE 5 NONE

ISSUE 6 NONE

ISSUE 7 NONE

ISSUE 8 NONE

TABLE A-4

SYSTEMS/ISSUES SAFETY REVIEW RESOLUTION MATRIX
FOOTNOTES

NOTE	OUTSTANDING ACTIONS
ISSUE 9 NONE	
(2) ISSUE 10 LIMITED SAFETY REVIEW. REQUIRES NEW SAFETY REVIEW PRIOR TO ENTERING MODE 2.	
ISSUE 11 NONE	
ISSUE 12 NONE	
ISSUE 13 NONE	
ISSUE 14 NONE	
ISSUE 15 NONE	
ISSUE 16 NONE	
ISSUE 17 NONE	
ISSUE 18 NONE	

SYSTEMS/ISSUES SAFETY REVIEW RESOLUTION MATRIX
FOOTNOTES

NOTE	OUTSTANDING ACTIONS
ISSUE 19 NONE	
(3) ISSUE 20 LIMITED SAFETY REVIEW. REQUIRES NEW REVIEW PRIOR TO ENTERING MODE 2.	
ISSUE 21 NONE	
ISSUE 22 NONE	
ISSUE 23 NONE	

TABLE A-5

SAFETY REVIEW SUMMARIES

Issue #1 - Inspection Personnel Issues

This issue was evaluated on a contractor basis.

Issue #1A - Mercury

Subgroup C - Mercury did perform safety related work on the system and safety evaluations were performed to assure LP&L management that Waterford Steam Electric Station #3 can be safely operated without compromising the health and safety of the public.

Issue #1 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
18-3	Radiation Monitoring System	Installation of safety related instrumentation was inspected by potentially unqualified inspectors. The quality of safety related instrumentation associated with this system was verified. Verification was accomplished by reinspection of NI instrument loops. Satisfactory completion of this program involving Mercury installations verifies acceptance of the installations. Accordingly, this issue does not serve as a constraint to the safe operation of these systems, and has been resolved and closed out by LP&L.
22	Fire Protection	
36-1	Component Cooling Water	
36-2	Component Cooling Water	
36-3	Aux. Component Cooling Water	
39	Emergency Diesel Generator	
43A	RCB Containment Cooling	
43B	Shield Bldg. Ventilation	
43E	Containment Vacuum Relief	
46B	Control Room HVAC	
46D	RAB HVAC	
46E	RAB Chilled Water	
52A	Reactor Coolant System	
52B	Reactor Coolant System	
52C	Reactor Coolant System	
53A	Charging & Letdown	
53B	Boric Acid Makeup	

<u>System #</u>	<u>System Description</u>
55A	Gaseous Waste Management
55B	Liquid Waste Management
58	Safety Injection
60A	Safety Injection
60B	Safety Injection
60C	Safety Injection
59	Containment Spray
66	Plant Protection System
63	Plant Protection System
71B	Condensate Make-up
73	Emergency Feedwater
76	Steam Generator and MSIVs

Issue #1B - Tompkins-Beckwith

Subgroup C - Tompkins-Beckwith did perform safety related work on the system, and safety evaluations were performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #1 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
18-3	Radiation Monitoring	Work performed on this system was inspected by potentially unqualified inspectors. To close out the concern LP&L verified the qualifications of the initial inspectors. LP&L also verified qualifications of the inspectors performing any over-inspection. Over-inspection provided to meet the ASME Code requirements for third party Authorized Nuclear Inspection services and independent Preservice Inspection in conjunction with other inspection programs, hydrostatic testing, and Pre-Core Hot Functional Testing confirm the acceptability of hardware installed by Tompkins-Beckwith.
22	Fire Protection	
36-1	Component Cooling Water	
36-2	Component Cooling Water	
36-3	Aux. Component Cooling Water	
39	Emergency Diesel Generator	
43B	Shield Bldg. Ventilation	
43E	Containment Vacuum Relief	
46B	Control Room HVAC	
46D	RAB HVAC	
46E	RAB Chilled Water	
48	LRT Containment Vessel	
52A	Reactor Coolant System	
52B	Reactor Coolant System	
52C	Reactor Coolant System	
53A	Charging and Letdown	
53B	Boric Acid Makeup	
54-9	Primary Sampling	
55A	Gaseous Waste Management	
55B	Liquid and Laundry Waste Management	

<u>System #</u>	<u>System Description</u>
55E	Liquid and Laundry Waste Management
58	Safety Injection
60A	Safety Injection
60B	Safety Injection
60C	Safety Injection
59	Containment Spray
61	Fuel Handling and Storage
65A-1	Excore Nuclear Instrument
71B	Condensate Make-up
73	Emergency Feedwater
76	Steam Generator and MSIV
38	Turbine and Turbine Controls
19-16	Whip Restraints
19-17	System Supports

Issue #1C - Other Contractors

Subgroup C - Other Contractors (other than Mercury and Tompkins-Beckwith) did perform safety related work on a number of systems and safety evaluations are being performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #1C does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluations</u>
All Table A-1 Systems	See Table A-1	A limited safety review was performed based upon the results of inspector qualification validation to date and the lack of fission products and decay heat prior to initial criticality.

Issue #2 - Missing NI Instrument Line Documentation

Subgroup C - Instrumentation installations that were identified to have adequate documentation to support the quality of the installations but a decision was made to rework the installations to comply with ASME III documentation requirements are contained in this system and a safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #2 does have an effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
36-1	Component Cooling Water	
36-2	Component Cooling Water	
36-3	Aux. Component Cooling Water	These systems were reworked to correct documentation to demonstrate system operability and remove tube class breaks from ASME III to ANSI B31.1. All work is complete.
39	Emergency Diesel Generator	
43B	Shield Building Ventilation	
66	Plant Protection System	
63	Plant Protection System	
73	Emergency Feedwater	
76	Steam Generator and MSIV	

Issue #3 - Instrumentation Expansion Loop Separation

Subgroup C - It has been determined that there is identified installation deficiency regarding tubing separation criteria in the system and a safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #3 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
66	Plant Protection System	New tube tracks and supports were installed to correct the deficiencies. Accordingly, this issue does not serve as a constraint to the safe operation of these systems, and has been resolved and closed out by LP&L.
63	Plant Protection System	

Issue #4 - Lower Tier Corrective Actions Are Not Being Upgraded to NCR's

Subgroup C - DCN's, FCR's, EDN's and T-B DN's have been reviewed and it was determined that some documents should have been upgraded to NCR's. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #4 does have a potential effect on all systems in Table A-6.

The Evaluation reveals that a statistically acceptable number of lower tier documents were reviewed showing no significant quality impact (no cases were detected which were safety significant and would be reportable under 10CFR50.55e). Therefore it is possible to conclude with a 95% confidence level that 95% of the unsampled documents contain no significant deficiencies. Accordingly, this issue does not serve as a constraint to safe operation of the systems.

Issue #5 -- Vendor Documentation - Conditional Releases

Subgroup C - With a review of QA/QC records it is concluded that there are no unresolved items which affect the systems, however Issue #5 does have a potential effect on all systems in Table A-6.

The Evaluation reveals that during the review of QA/QC records conditional release items which affected systems were evaluated and closed out by LP&L with receipt of the "unconditional" paperwork. No items exist to affect the safety function of the systems.

Issue #6 - Dispositioning of Non-Conformance and Discrepancy Reports

Subgroup C - It was noted during a review of NCR's that some of the reports had questionable dispositioning potentially rendering the quality of installation indeterminate.

Issue #6 does have a potential effect on all systems in Table A-6.

The Evaluation included a combination screening and sampling method to review EBASCO NCR's including NCR's identified by the NRC and no items were identified which had significant safety impact on the systems. Mercury NCR's were reviewed for upgrade and sampled to determine reportability to support the conclusion that the safety review is not effected.

Issue #7 - Backfill Soil Densities

Subgroup C -- Data from the in-place density tests on the class A fill was potentially not traceable relative to the technical adequacy of the placements, therefore the impact on the the quality of the system may have been indeterminate. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #7 does have a potential effect on all systems in Table A-6.

The Evaluation reveals that the data for the in-place density tests performed on the class A fill has been located and has been transmitted to the QA records vault. Review and analysis of the records indicates that the Class A backfill soil densities are in accordance with specifications and FSAR requirements except for analytically non-significant deficiencies and does provide the required design structural capacity for the plant under seismic loadings. Accordingly, this issue does not serve as a constraint to safe operation of the system, and has been resolved and closed out by LP&L.

Issue #8 - Visual Examination of Shop Welds During Hydrostatic Testing

Subgroup C - The system does include ASME Class 1 & 2 welds (shop and field) that were inspected during total system hydro in the field. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #8 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
18-1	Radiation Monitoring System	ASME Class 1 & 2 welds (shop and field) were inspected and documented on ASME N-5 code data reports during total system hydro in the field. The ASME Class 1 & 2 welds (shop and field) were tested and inspected in accordance with ASME code, in the field. There is no deviation from FSAR requirements. Accordingly, this issue does not serve as a restraint to safe operation of these systems, and has been resolved and closed out by LP&L.
18-2	Radiation Monitoring	
18-3	Radiation Monitoring	
18-4	Radiation Monitoring	
18-5	Radiation Monitoring	
36-1	Component Cooling Water	
36-2	Component Cooling Water	
36-3	Aux. Component Cooling Water	
52A	Reactor Coolant System	
52B	Reactor Coolant System	
52C	Reactor Coolant System	
53A	Charging And Letdown	
53B	Boric Acid Makeup	
54-9	Primary Sampling	
55A	Gaseous Waste Management	
55B	Liquid and Laundry Waste Management	
55E	Liquid and Laundry Waste Management	
58	Safety Injection	

<u>System #</u>	<u>System Description</u>
60A	Safety Injection
60B	Safety Injection
60C	Safety Injection
59	Containment Spray
71B	Condensate Makeup
73	Emergency Feedwater
76	Steam Generator and MSIV

Issue #9 - Welder Certification

Subgroup C - During the NRC Staff review of the records for the installation of the supports for certain instrumentation cabinets in the RCB, it was determined the same documentation was apparently missing. This apparent missing documentation pertained to support welds and certification of some welders. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public:

Issue #9 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
48	Containment Vessel	The review and evaluation of the welding for the RCB instrument cabinets in question is complete with confirmation of its capability to adequately perform its safety function under design conditions. The welding on instrumentation cabinets supports that affect these systems has been reinspected and verified as acceptable with no rework required. No further corrective action is required.
52A	Reactor Coolant System	
52B	Reactor Coolant System	
52C	Reactor Coolant System	
55B	Liquid and Laundry Waste Management	
55E	Liquid and Laundry Waste Management	
58	Safety Injection	
60A	Safety Injection	
60B	Safety Injection	
60C	Safety Injection	
66	Plant Protection System	
63	Plant Protection System	
76	Steam Generators and MSIV	
---	Seismic Structures	

Issue #10 - Inspector Qualifications - (J.A. Jones and Fegles)

Subgroup C - J.A. Jones and Fegles were responsible for the construction of the basemat and all structural concrete on the basemat. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #10 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
---	Seismic Structures	A limited safety review was performed based upon the results of inspector qualification verification to date, lack of fission products and decay heat prior to initial criticality and low probability of a seismic event during the time period from Fuel Load to initial criticality.

Issue #11 - Cadwelding

Subgroup C - Data from the cadweld testing program was potentially not traceable relative to the technical adequacy; therefore the impact on the system could have been indeterminate. A safety evaluation was performed to assure LP&L management the Waterford SES No. 3 can be safely operated without compromising the health and safety of the public.

Issue #11 does have a potential effect on all systems in Table A-6.

The Evaluation of cadweld records concluded that discrepancies noted were not significant to safety and would not have had any effect on the structural capability of the NPIS during operation and safe shutdown. The probability of an accident previously evaluated in the FSAR is not increased. Accordingly, this issue does not serve as a constraint to the safe operation of the systems, and has been resolved and closed out by LP&L.

Issue #12 - Main Streamline Framing Restraints

Subgroup C - Apparent failure to inspect the installation of the main streamline framing restraints may rendered the quality of the system indeterminate. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #12 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
76	Steam Generators and MSIV	The deficiencies noted during the reinspection have been corrected and all hardware corrective actions have been completed and verified by LP&L. Accordingly, this issue does not serve as a constraint to safe operation of these systems, and has been resolved and closed out by LP&L.
91	Seismic Supports	
19-16	Whip Restraints	
19-17	System Supports (Hangers)	
---	Seismic Structures	

Issue #13 - Missing NCRs

Subgroup C - It was noted that there were missing reports in the consecutively numbered EBASCO and Mercury NCRs implying missing NCRs that may have rendered system quality indeterminate. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #13 does have a potential effect on all systems in Table A-6.

The Evaluation includes reviews of EBASCO and Mercury NCR documentation completed by LP&L QA. EBASCO and Mercury missing/voided NCRs and Mercury NCRs closed administratively have been determined to be properly dispositioned and closed. There are no unreviewed safety questions for this system pertinent to this issue.

Issue #14 - J.A. Jones Speed Letters and EIRs

Subgroup C - Contractors performing safety related work generated EIRs and Speedy Memos which transmitted design information that could potentially affect system quality. A safety review was performed to assure LP&L management that the system can be safely operated without compromising the health and safety of the public.

Issue #14 does have a potential effect on all systems in Table A-6.

The Evaluation included a sampling program to evaluate informal documents requesting engineering information from safety related contractors. Of all the samples reviewed those that resulted in design change deficiency had no safety significance. The program provides reasonable assurance that informal documents were not used to transmit design changes which have safety significance.

Issue #15 - Welding of "D" Level Material Inside Containment

Subgroup C - Class "D" material installation inside containment does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
08A	208/120v Elec. Distribution Safety	During the evaluation of Class "D" material installation inside containment the work and material under review was verified by LP&L. Contractor QA is of satisfactory quality, and this issue does not have an adverse effect on the safety analysis, system operability or margin to safety on these systems.
17	Seismic Monitoring	
18-1	Radiation Monitoring System	
18-2	Radiation Monitoring System	
18-3	Radiation Monitoring System	
18-4	Radiation Monitoring System	
18-5	Radiation Monitoring System	
21	Fire Detection	
22	Fire Protection	
36-1	Component Cooling Water	
36-2	Component Cooling Water	
40-2	Crane & Hoist FHB	
43A	RCB Containment Cooling	
43E	Containment Vacuum Relief	
48	LRT Containment Vessel	
52A	Reactor Coolant System	
52B	Reactor Coolant System	
52C	Reactor Coolant System	
53A	Charging & Latdown	
54-9	Primary Sampling	

<u>System #</u>	<u>System Description</u>
58	Safety Injection
60A	Safety Injection
60B	Safety Injection
60C	Safety Injection
59	Containment Spary
61	Fuel Handling & Storage
65A-1	Excore Nuclear Inst.
65A-2	Excore Nuclear Inst.
71B	Condensate Makeup
76	Steam Generators & MSIV
91	Seismic Supports
19-16	Whip Restraints
19-17	System Supports (Hangers)
---	Seismic Structures

Issue #16 - Surveys and Exit Interviews of QA Personnel

Subgroup C - An interview program was instituted by LP&L to provide an additional avenue of communication to elicit information on quality concerns from personnel prior to leaving the Waterford SES No. 3 project. The concern was that the LP&L program may not have promptly or thoroughly examined the specific areas of concern and the programmatic implications of these systems. Issue #16 does have a potential effect on all systems in Table A-6.

The Evaluation reveals that all concerns are being reviewed under an improved quality concern program. Where there are issues not previously identified with potential safety related consequences, these issues are promptly reported to LP&L management. These concerns are properly addressed under LP&L required and approved management programs in a timely fashion. The program does not involve unreviewed safety issues.

Issue #17 - QC Verification of Expansion Anchor Characteristics

Subgroup C - Mercury, the subject of this concern, did install safety related instrumentation expansion anchors in these systems. A safety evaluation was performed to assure LP&L management that the system can be safely operated without compromising the health and safety of the public.

Issue #17 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
18-1 18-2 18-3 18-4 18-5	Radiation Monitoring System	Inspection forms were used that do not explicitly cover all inspection attributes. The reinspection of all Mercury installed NI instrumentation and subsequent engineering evaluations indicates that the issue of expansion anchor characteristic inspection forms have no safety significance for these systems.
36-1	Component Cooling Water	
36-2	Component Cooling Water	
36-3	Aux. Component Cooling Water	
39	Emergency Diesel Generator	
43A	RCB Containment Cooling	
43B	Shield Bldg. Ventilation	
43E	Containment Vacuum Relief	
46B	Control Room HVAC	
46D	RAB HVAC	
46E	RAB Chilled Water	
50B	Misc. Panels	
52A	Reactor Coolant System	
52B	Reactor Coolant System	
52C	Reactor Coolant System	
53A	Charging and Letdown	
53B	Boric Acid Makeup	
55A	Gaseous Waste Management	

Issue #18 - Documentation of Walkdowns on Non-Safety Related Equipment

Subgroup C - Documentation of walkdown on non-safety related equipment does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
02A	125v DC Safety	Area inspections where the system is present indicate no interactions of safety significance.. Accordingly, this issue does not serve as a restraint to safe operation of these systems, and has been resolved and closed out by LP&L.
06A	4.16kv Elec. Distribution Safety	
07A	480v Elec. Distribution Safety	
08A	208/120v Elec. Distribution Safety	
09A	Inverters & Distribution Safety	
10	Communications	
13A-1	Heat Trace Safety	
16	Environmental Monitoring	
17	Seismic Monitoring	
18-1	Radiation Monitoring System	
18-2	Radiation Monitoring System	
18-3	Radiation Monitoring System	
18-4	Radiation Monitoring System	
18-5	Radiation Monitoring System	
20	Security System	
21	Fire Detection	
22	Fire Protection	

<u>System #</u>	<u>System Description</u>
36-1	Component Cooling Water
36-2	Component Cooling Water
36-3	Aux Component Cooling Water
39	Emergency Diesel Generator
40-2	Crane & Hoist FHB
43A	RCB Containment Cooling
43B	Shield Bldg. Ventilation
43E	Containment Vacuum Relief
46B	Control Room HVAC
46D	RAB HVAC
46E	RAB Chilled Water
46K	Fire Dampers
48	LRT Containment Vessel
49	Process Analog Control
50B	Misc. Panels
52A	Reactor Coolant System
52B	Reactor Coolant System
52C	Reactor Coolant System
53A	Charging & Letdown
53B	Boric Acid Makeup
54-9	Primary Sampling
55A	Gaseous Waste Management

<u>System #</u>	<u>System Description</u>
55B	Liquid & Laundry Waste Management
55E	Liquid & Laundry Waste Management
58	Safety Injection
60A	Safety Injection
60B	Safety Injection
60C	Safety Injection
59	Containment Spray
61	Fuel Handling & Storage
66	Plant Protection System
63	Plant Protection System
65A-1	Excore Nuclear Inst.
65A-2	Excore Nuclear Inst.
71B	Condensate Makeup
73	Emergency Feedwater
75	Secondary Sampling
76	Steam Generators & MSIV
91	Seismic Supports
19-16	Whip Restraints
19-17	System Supports (Hangers)
---	Seismic Structures

Issue #19 - Water in Basemat Instruments

Subgroup C - Water in basemat instruments does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
08A	208/120 v Elec. Distribution Safety	The present analysis for moderate energy pipe rupture flooding per the FSAR envelopes the concern for water seepage since this flow rate would be minimal. Accordingly, this issue does not serve as a restraint to safe operation of these systems, and has been resolved and closed out by LP&L.
10	Communications	
13A-1	Heat Trace Safety	
17	Seismic Monitoring	
18-1	Radiation Monitoring System	
18-2	Radiation Monitoring System	
18-3	Radiation Monitoring System	
18-4	Radiation Monitoring System	
18-5	Radiation Monitoring System	
20	Security System	
36-1	Component Cooling Water	
36-2	Component Cooling Water	
36-3	Aux Component Cooling Water	
43A	RCB Containment Cooling	
46D	RAB HVAC	
46E	RAB Chilled Water	
53A	Charging & Letdown	
53B	Boric Acid Makeup	

<u>System #</u>	<u>System Description</u>
55A	Gaseous Waste Management
55B	Liquid & Laundry Waste Management
55E	Liquid & Laundry Waste Management
58	Safety Injection
60A	Safety Injection
60B	Safety Injection
60C	Safety Injection
59	Containment Spray
71B	Condensate Makeup
73	Emergency Feedwater
---	Seismic Structures

Issue #20 - Construction Materials Testing (CMT) Personnel Qualifications Records

Subgroup C - Construction Material Testing (CMT) personnel did do work on the system and a safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #20 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
---	Seismic Structures	<p>An Engineering Evaluation of CMT for backfill soils indicates no defective work of safety significance was accepted as a result of testing personnel actions.</p> <p>A limited safety review was performed based upon the results of inspector qualification verification to date, lack of fission products and decay heat prior to initial criticality and low probability of a seismic event during the time period from Fuel Load to initial criticality.</p>

Issue #21 - LP&L QA Construction System Status and Transfer Reviews

Subgroup C - Open walkdown comments did have a potential impact on the system even though startup and system engineering evaluated the walkdown concerns and determined that there is no adverse impact on system/testing or operability.

Issue #21 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
71	Condensate Makeup	All open walkdown comments have been resolved/closed.
91	Seismic Supports	All significant construction QA findings have been identified and properly dispositioned. Accordingly, this review does not serve as a constraint to safe operation of these systems, and has been resolved and closed out by LP&L.

Issue #22 - Welder Qualifications (Mercury) and Filler Materials Control
(Site Wide)

Subgroup C - The LP&L review of qualifications status documentation for all Mercury welders has been completed and the program does have a potential impact on the system. The weldment filler material controls did apparently deviate from code requirements.

Issue #22 does have a potential effect on all systems in Table A-6.

The Evaluation contains a clarification of the review finding on welder qualifications, and there are no potential unreviewed safety questions pertinent to this issue. "Rebaking" of low hydrogen electrodes was not practiced on the site and engineering justification demonstrates that while there were limited deviations from code specifications however this did not cause degradation of quality of weldment filler material.

Issue #23 - QA Program Breakdown Between EBASCO And Mercury

The concern is not directly related to the systems under review and is considered to be programmatic in nature.

There are no Subgroup C systems.

TABLE A-6

ISSUES

SYSTEM	No. 1 Inspection Personnel Issues (A) (B) (C)	No. 2 Missing NI Instrument Line Docu- mentation	No. 3 Instrumen- tation Ex- pansion Loop Separation	No. 4 Lower Tier Corrective Actions are not being Upgraded to NCRs	No. 5 Vendor Docu- mentation - Conditional Releases	No. 6 Disposition- ing of Non- conformance and Discrep- ancy Reports	No. 7 Backfill Soil Densities	No. 8 Visual Exam- ination of Shop Welds During Hydrostatic Testing
02A - 125v DC Safety	A B C	A	A	C	C	C	C	A
03 - Switching Station	A B C	A	A	C	C	C	C	A
04 - Startup Transformers	A B C	A	A	C	C	C	C	A
06A - 4.16kv Elec. Distribution Safety	A B C	A	A	C	C	C	C	A
07A - 480v Elec. Distribution Safety	A B C	A	A	C	C	C	C	A
08A - 208/120v Elec. Distribution Safety	A B C	A	A	C	C	C	C	A
09A - Inverters & Distribution Safety	A B C	A	A	C	C	C	C	A
10 - Communications	A B C	A	A	C	C	C	C	A
13A-1 - Heat Trace Safety	A B C	A	A	C	C	C	C	A
16 - Environmental Monitoring	A B C	A	A	C	C	C	C	A
17 - Seismic Monitoring	A B C	A	A	C	C	C	C	A

TABLE A-6

ISSUES

SYSTEM	No. 1 Inspection Personnel Issues			No. 2 Missing N1 Instrument Line Docu- mentation		No. 3 Instrumen- tation Ex- pansion Loop Separation		No. 4 Lower Tier Corrective Actions are not being Upgraded to NCRs		No. 5 Vendor Docu- mentation - Conditional Releases		No. 6 Disposition- ing of Non- conformance and Discrep- ancy Reports		No. 7 Backfill Soil Densities		No. 8 Visual Exam- ination of Shop Welds During Hydrostatic Testing	
	(A)	(B)	(C)														
18-1 - Radiation Monitoring System	B	B	C	A		A		C		C		C		C		C	
18-2	B	B	C	A		A		C		C		C		C		C	
18-3	C	C	C	A		A		C		C		C		C		C	
18-4	A	B	C	A		A		C		C		C		C		C	
18-5	A	B	C	A		A		C		C		C		C		C	
20 - Security System	A	B	C	A		A		C		C		C		C		A	
21 - Fire Detection	A	B	C	A		B		C		C		C		C		A	
22 - Fire Protection	C	C	C	A		B		C		C		C		C		B	
36-1 - Component Cooling Water	C	C	C	C		B		C		C		C		C		C	
36-2	C	C	C	C		B		C		C		C		C		C	
36-3 - Aux Component Cooling Water	C	C	C	C		B		C		C		C		C		C	
39 - Emergency Diesel Generator	C	C	C	C		B		C		C		C		C		B	
40-2 - Crane & Hoist FHB	A	B	C	A		A		C		C		C		C		A	
43A - RCB Containment Cooling	C	B	C	A		B		C		C		C		C		A	

TABLE A-6

ISSUES

SYSTEMS	No. 1 Inspection Personnel Issues			No. 2 Missing NI Instrument Line Docu- mentation			No. 3 Instrumen- tation Ex- pansion Loop Separation			No. 4 Lower Tier Corrective Actions are not being Upgraded to NCRs			No. 5 Vendor Docu- mentation - Conditional Releases			No. 6 Disposition- ing of Non- conformance and Discrep- ancy Reports			No. 7 Backfill Soil Densities			No. 8 Visual Exam- ination of Shop Welds During Hydrostatic Testing		
	(A)	(B)	(C)																					
43B - Shield Bldg. Ventilation	C	C	C		C		B		C		C		C		C		C		C		A			
43E - Containment Vacuum Relief	C	C	C		A		B		C		C		C		C		C		C		A			
46B - Control Room HVAC	C	C	C		A		B		C		C		C		C		C		C		A			
46D - RAB HVAC	C	C	C		A		B		C		C		C		C		C		C		A			
46E - RAB Chilled Water	C	C	C		A		B		C		C		C		C		C		C		B			
46K - Fire Dampers	A	B	C		A		A		C		C		C		C		C		C		A			
48 - LRT Containment Vessel	A	C	C		A		B		C		C		C		C		C		C		A			
49 - Process Analog Control	A	B	C		A		B		C		C		C		C		C		C		A			
50B - Misc. Panels	A	B	C		A		B		C		C		C		C		C		C		A			
52A - Reactor Coolant System	C	C	C		A		B		C		C		C		C		C		C		C			
52B	C	C	C		A		B		C		C		C		C		C		C		C			
52C	C	C	C		A		B		C		C		C		C		C		C		C			

TABLE A-6

ISSUES

SYSTEMS	No. 1 Inspection Personnel Issues			No. 2 Missing N1 Instrument Line Docu- mentation			No. 3 Instrumen- tation Ex- pansion Loop Separation			No. 4 Lower Tier Corrective Actions are not being Upgraded to NCRs			No. 5 Vendor Docu- mentation - Conditional Releases			No. 6 Disposition- ing of Non- conformance and Discrep- ancy Reports			No. 7 Backfill Soil Densities			No. 8 Visual Exam- ination of Shop Welds During Hydrostatic Testing		
	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)	(A)	(B)	(C)
53A - Charging & Letdown	C	C	C	A			B			C			C			C			C			C		
53B - Boric Acid Makeup	C	C	C	A			B			C			C			C			C			C		
54-9 - Primary Sampling	B	C	C	A			B			C			C			C			C			C		
55A - Gaseous Waste Management	C	C	C	A			B			C			C			C			C			C		
55B - Liquid & Laundry Waste Management	C	C	C	A			B			C			C			C			C			C		
55E	B	C	C	A			B			C			C			C			C			C		
58 - Safety Injection	C	C	C	A			B			C			C			C			C			C		
60A	C	C	C	A			B			C			C			C			C			C		
60B	C	C	C	A			B			C			C			C			C			C		
60C	C	C	C	A			B			C			C			C			C			C		
59 - Containment Spray	C	C	C	A			B			C			C			C			C			C		
61 - Fuel Handling & Storage	A	C	C	A			B			C			C			C			C			C		

TABLE A-6

ISSUES

SYSTEMS	No. 1 Inspection Personnel Issues	No. 2 Missing NI Instrument Line Docu- mentation	No. 3 Instrumen- tation Ex- pansion Loop Separation	No. 4 Lower Tier Corrective Actions are not being Upgraded to NCRs	No. 5 Vendor Docu- mentation - Conditional Releases	No. 6 Disposition- ing of Non- conformance and Discrep- ancy Reports	No. 7 Backfill Soil Densities	No. 8 Visual Exam- ination of Shop Welds During Hydrostatic Testing
	(A)(B)(C)							
66 - Plant Protection System	C B C	C	C	C	C	C	C	A
63	C B C	C	C	C	C	C	C	A
65A-1 - Excore Nuclear Inst.	A C C	A	A	C	C	C	C	A
65A-2	A B C	A	A	C	C	C	C	A
71B - Condensate Makeup	C C C	A	B	C	C	C	C	C
73 - Emergency Feedwater	C C C	C	B	C	C	C	C	C
75 - Secondary Sampling	B B C	A	B	C	C	C	C	B
76 - Steam Generators & MSTV	C C C	C	B	C	C	C	C	C
88 - Turbine & Turbine Controls	B C C	A	B	C	C	C	C	A
91 - Seismic Supports	A B C	A	A	C	C	C	C	A
19-16 - Whip Restraints	A C C	A	A	C	C	C	C	A
19-17 - System Supports (Hangers)	A C C	A	A	C	C	C	C	A
--- - Seismic Structures	A B C	A	A	C	C	C	C	A

TABLE A-6

SYSTEM	ISSUES							
	No. 9 Welder Cer- tification	No. 10 Inspector Qualifica- tions (J.A. Jones & Fegles)	No. 11 Cadwelding	No. 12 Main Steam- line Framing Restraints	No. 13 Missing NCRs	No. 14 J.A. Jones Speed Letters and FIRs	No. 15 Welding of "D" Level Material Inside Containment	No. 16 Surveys and Exit Interviews of QA Personnel
02A - 125v CD Safety	A	A	C	A	C	C	A	C
03 - Switching Station	A	A	C	A	C	C	A	C
04 - Startup Transformers	A	A	C	A	C	C	A	C
06A - 4.16kv Elec. Distribution Safety	A	A	C	A	C	C	A	C
07A - 480v Elec. Distribution Safety	A	A	C	A	C	C	A	C
08A - 208/120v Elec. Distribution Safety	A	A	C	A	C	C	C	C
09A - Inverters & Distribution Safety	A	A	C	A	C	C	A	C
10 - Communications	A	A	C	A	C	C	A	C
13A-1 - Heat Trace Safety	A	A	C	A	C	C	A	C
16 - Environmental Monitoring	A	A	C	A	C	C	A	C
17 - Seismic Monitoring	A	A	C	A	C	C	C	C

TABLE A-6

ISSUES

SYSTEM	No. 9 Welder Cer- tification	No. 10 Inspector Qualifica- tions (J.A. Jones & Fegles)	No. 11 Cadwelding	No. 12 Main Steam- line Framing Restraints	No. 13 Missing NCRs	No. 14 J.A. Jones Speed Letters and EIRs	No. 15 Welding of "D" Level Material Inside Containment	No. 16 Surveys and Exit Interviews of QA Personnel
18-1 - Radiation Monitoring System	A	A	C	A	C	C	C	C
18-2	A	A	C	A	C	C	C	C
18-3	A	A	C	A	C	C	C	C
18-4	A	A	C	A	C	C	C	C
18-5	A	A	C	A	C	C	C	C
20 - Security System	A	A	C	A	C	C	A	C
21 - Fire Detection	A	A	C	A	C	C	C	C
22 - Fire Protection	A	A	C	A	C	C	C	C
36-1 - Component Cooling Water	A	A	C	A	C	C	C	C
36-2	A	A	C	A	C	C	C	C
36-3 - Aux Component Cooling Water	A	A	C	A	C	C	A	C
39 - Emergency Diesel Generator	A	A	C	A	C	C	A	C
40-2 - Crane & Hoist FHB	B	A	C	A	C	C	C	C
43A - RCB Containment Cooling	A	A	C	A	C	C	C	C

TABLE A-6

ISSUES

	No. 9 Welder Cer- rification	No. 10 Inspector Qualifica- tions (J.A. Jones & Fegles)	No. 11 Cadmolding	No. 12 Main Steam- line Framing Restraints	No. 13 Missing NCRs	No. 14 J.A. Jones Speed Letters and EIRs	No. 15 Welding of "D" Level Material Inside Containment	No. 16 Surveys and Exit Interviews of QA Personnel
<u>SYSTEMS</u>								
43B - Shield Bldg. Ventilation	A	A	C	A	C	C	A	C
43E - Containment Vacuum Relief	A	A	C	A	C	C	C	C
46B - Control Room HVAC	A	A	C	A	C	C	A	C
46D - RAB HVAC	B	A	C	A	C	C	A	C
46E - RAB Chilled Water	A	A	C	A	C	C	A	C
46K - Fire Dampers	A	A	C	A	C	C	A	C
48 - LRT Containment Vessel	C	A	C	A	C	C	C	C
49 - Process Analog Control	A	A	C	A	C	C	A	C
50B - Misc. Panels	B	A	C	A	C	C	A	C
52A - Reactor Coolant System	C	A	C	A	C	C	C	C
52B	C	A	C	A	C	C	C	C
52C	C	A	C	A	C	C	C	C

TABLE A-6

ISSUES

	No. 9 Welder Cer- tification	No. 10 Inspector Qualifica- tions (J.A. Jones & Fegles)	No. 11 Cadwelding	No. 12 Main Steam- line Framing Restraints	No. 13 Missing NCRs	No. 14 J.A. Jones Speed Letters and EIRs	No. 15 Welding of "D" Level Material Inside Containment	No. 16 Surveys and Exit Interviews of QA Personnel
<u>SYSTEMS</u>								
53A - Charging & Letdown	A	A	C	A	C	C	C	C
53B - Boric Acid Makeup	A	A	C	A	C	C	A	C
54-9 - Primary Sampling	A	A	C	A	C	C	C	C
55A - Gaseous Waste Management	A	A	C	A	C	C	A	C
55B - Liquid & Laundry Waste Management	C	A	C	A	C	C	A	C
55E	C	A	C	A	C	C	A	C
58 - Safety Injection	C	A	C	A	C	C	C	C
60A	C	A	C	A	C	C	C	C
60B	C	A	C	A	C	C	C	C
60C	C	A	C	A	C	C	C	C
59 - Containment Spray	A	A	C	A	C	C	C	C
61 - Fuel Handling & Storage	B	A	C	A	C	C	C	C

TABLE A-6

ISSUES

	No. 9 Welder Cer- tification	No. 10 Inspector Qualifica- tions (J.A. Jones & Fegles)	No. 11 Cadvelding	No. 12 Main Stream- line Framing Restraints	No. 13 Missing NCRs	No. 14 J.A. Jones Speed Letters and EIRs	No. 15 Welding of "D" Level Material Inside Containment	No. 16 Surveys and Exit Interviews of QA Personnel
<u>SYSTEMS</u>								
66 - Plant Protection System	C	A	C	A	C	C	A	C
63	C	A	C	A	C	C	A	C
65A-1 - Excore Nuclear Insf.	A	A	C	A	C	C	C	C
65A-2	A	A	C	A	C	C	C	C
71B - Condensate Makeup	A	A	C	A	C	C	C	C
73 - Emergency Feedwater	A	A	C	A	C	C	A	C
75 - Secondary Sampling	A	A	C	A	C	C	A	C
76 - Steam Generators & MSIV	C	A	C	C	C	C	C	C
88 - Turbine & Turbine Controls	A	A	C	A	C	C	A	C
91 - Seismic Supports	B	A	C	C	C	C	C	C
19-16 - Whip Restraints	B	A	C	C	C	C	C	C
19-17 - System Supports (Hangers)	B	A	C	C	C	C	C	C
----- - Seismic Structures	C	C	C	C	C	C	C	C

TABLE A-6

SYSTEM	ISSUES						
	No. 17 QC Verifi- cation of Expansion Anchor Char- acteristics	No. 18 Documen- tation of Walkdowns on Non-Safety Related Equipment	No. 19 Water in Basemat Instruments	No. 20 Construction Materials Testing (CMT) Personnel Qualifica- tion Records	No. 21 LP&L QA Construc- tion System Status and Transfer Reviews	No. 22 Welder Qualifica- tions (Mercury) and Filler Material Control (Site Wide)	No. 23 QA Program Breakdown Between Ebasco and Mercury
02A - 125v DC Safety	A	C	A	A	A	C	A
03 - Switching Station	A	A	A	A	A	C	A
04 - Startup Transformers	A	A	A	A	A	C	A
06A - 4.16kv Elec. Distribution Safety	A	C	A	A	A	C	A
07A - 480v Elec. Distribution Safety	A	C	A	A	A	C	A
08A - 208/120v Elec. Distribution Safety	A	C	C	A	A	C	A
09A - Inverters & Distribution Safety	A	C	A	A	A	C	A
10 - Communications	A	C	C	A	A	C	A
13A-1 - Heat Trace Safety	A	C	C	A	A	C	A
16 - Environmental Monitoring	A	C	A	A	A	C	A
17 - Seismic Monitoring	A	C	C	A	A	C	A

TABLE A-6

ISSUES

SYSTEM	No. 17 QC Verifi- cation of Expansion Anchor Char- acteristics	No. 18 Documen- tation of Walkdowns on Non-Safety Related Equipment	No. 19 Water in Basemat Instruments	No. 20 Construction Materials Testing (CMT) Personnel Qualifica- tion Records	No. 21 LP&L QA Construc- tion System Status and Transfer Reviews	No. 22 Welder Qualifica- tions (Mercury) and Filler Material Control (Site Wide)	No. 23 QA Program Breakdown Between Ebasco and Mercury
18-1 - Radiation Monitoring System	C	C	C	A	B	C	A
18-2	C	C	C	A	B	C	A
18-3	C	C	C	A	B	C	A
18-4	C	C	C	A	B	C	A
18-5	C	C	C	A	B	C	A
20 - Security System	A	C	C	A	A	C	A
21 - Fire Detection	A	C	A	A	A	C	A
22 - Fire Protection	A	C	A	A	A	C	A
36-1 - Component Cooling Water	C	C	C	A	B	C	A
36-2	C	C	C	A	B	C	A
36-3 - Aux Component Cooling Water	C	C	C	A	B	C	A
39 - Emergency Diesel Generator	C	C	A	A	A	C	A
40-2 - Crane & Hoist FHB	A	C	A	A	A	C	A
43A - RCB Containment Cooling	C	C	C	A	A	C	A

TABLE A-6

ISSUES

	No. 17 QC Verifi- cation of Expansion Anchor Char- acteristics	No. 18 Documen- tation of Walkdown on Non-Safety Related Equipment	No. 19 Water in Basemat Instruments	No. 20 Construction Materials Testing (CMT) Personnel Qualifica- tion Records	No. 21 LP&L QA Construc- tion System Status and Transfer Reviews	No. 22 Welder Qualifica- tions (Mercury) and Filler Material Control (Site Wide)	No. 23 QA Program Breakdown Between Ebasco and Mercury
<u>SYSTEMS</u>							
43B - Shield Bldg. Ventilation	C	C	A	A	B	C	A
43E - Containment Vacuum Relief	C	C	A	A	A	C	A
46B - Control Room HVAC	C	C	A	A	B**	C	A
46D - RAB HVAC	C	C	C	A	A	C	A
46E - RAB Chilled Water	C	C	C	A	B	C	A
46K - Fire Dampers	A	C	A	A	A	C	A
48 - LRT Containment Vessel	A	C	A	A	A	C	A
49 - Process Analog Control	A	C	A	A	A	C	A
50B - Misc. Panels	C	C	A	A	A	C	A
52A - Reactor Coolant System	C	C	A	A	A	C	A
52B	C	C	A	A	A	C	A
52C	C	C	A	A	A	C	A

** - This system was incorrectly identified as 43B9 in this issue.

TABLE A-6

	ISSUES						
	No. 17 QC Verifi- cation of Expansion Anchor Char- acteristics	No. 18 Documen- tation of Walkdowns on Non-Safety Related Equipment	No. 19 Water in Basemat Instruments	No. 20 Construction Materials Testing (CMT) Personnel Qualifica- tion Records	No. 21 LP&L QA Construc- tion System Status and Transfer Reviews	No. 22 Welder Qualifica- tions (Mercury) and Filler Material Control (Site Wide)	No. 23 QA Program Breakdown Between Ebasco and Mercury
<u>SYSTEMS</u>							
53A - Charging & Letdown	C	C	C	A	A	C	A
53B - Boric Acid Makeup	C	C	C	A	A	C	A
54-9 - Primary Sampling	A	C	A	A	A	C	A
55A - Gaseous Waste Management	C	C	C	A	B	C	A
55B - Liquid & Laundry Waste Management	A	C	C	A	A	C	A
55E	A	C	C	A	A	C	A
58 - Safety Injection	C	C	C	A	B	C	A
60A	C	C	C	A	B	C	A
60B	C	C	C	A	B	C	A
60C	C	C	C	A	B	C	A
59 - Containment Spray	C	C	C	A	B	C	A
6E - Fuel Handling & Storage	C	C	A	A	A	C	A

TABLE A-6

ISSUES

No. 17 QC Verifi- cation of Expansion Anchor Char- acteristics	No. 18 Documen- tation of Walkdowns on Non-Safety Related Equipment	No. 19 Water in Basemat Instruments	No. 20 Construction Materials Testing (CMT) Personnel Qualifica- tion Records	No. 21 LP&L QA Construc- tion System Status and Transfer Reviews	No. 22 Welder Qualifica- tions (Mercury) and Filler Material Control (Site Wide)	No. 23 QA Program Breakdown Between Ebasco and Mercury
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SYSTEMS

66 - Plant Protection System	C	C	A	A	A	C	A
63	C	C	A	A	A	C	A
65A-1 - Excore Nuclear Inst.	A	C	A	A	A	C	A
65A-2	A	C	A	A	A	C	A
71B - Condensate Makeup	C	C	C	A	C	C	A
73 - Emergency Feedwater	C	C	C	A	A	C	A
75 - Secondary Sampling	A	C	A	A	A	C	A
76 - Steam Generators & MSIV	C	C	A	A	A	C	A
88 - Turbine & Turbine Controls	A	A	A	A	A	C	A
91 - Seismic Supports	A	C	A	A	C	C	A
19-16 - Whip Restraints	A	C	A	A	A	C	A
19-17 - System Supports (Hangers)	C	C	A	A	A	C	A
--- - Seismic Structures	C	C	C	C	A	C	A

ATTACHMENT B

SAFETY REVIEWS FOR PLANT

SYSTEMS REQUIRED BY

TECHNICAL SPECIFICATIONS FOR

CRITICALITY, LOW POWER

TESTING AND FULL POWER OPERATION

LICENSING PLAN FOR
CRITICALITY, LOW POWER TESTING
AND FULL POWER OPERATION

The program discussed in Attachment C and applied to Fuel load and Precriticality Post Core-Load Hot Functional Testing in Attachment A is being applied to those systems required for Criticality, Low Power Testing and Full Power Operation. These systems are listed in Table B-1. This process has been completed to the extent feasible pending final resolution of Issue #1C.

Summaries have been prepared (as described in Attachment A, Table A-4) and full documentation will be filed in the Waterford 3 On-Site Licensing Unit offices for inspection and review by the NRC staff.

TABLE B-1

PLANT SYSTEMS REQUIRED FOR CRITICALITY AND LOW
POWER TESTING TO FIVE PERCENT, AND FULL POWER OPERATION

<u>ACRONYM</u>	<u>SYS. NO</u>	<u>DESCRIPTION</u>	<u>OPERABILITY REQUIRED</u>
PMC	15	PLANT MONITORING COMPUTER	MODE 1 (20%)
FP	22-3	FIRE PROTECTION - HALON	MODE 1 (20%)
HRA	43H	RCB HYDROGEN RECOMBINERS/ ANALYZER	MODE 1-2
CEC	64	CONTROL ELEMENT ASSY. CALCULATOR	MODE 1-2
INI	65B	INCORE NUCLEAR INSTRUMENTATION	MODE 1 (20%)
MNI	65C	MOVABLE INCORE NUCLEAR INSTR.	MODE 1 (20%)
VLP	69	VIBRATION & LOOSE PARTS MONITOR	MODE 1-2

Table B-2

SYSTEMS / ISSUES SAFETY RESOLUTION MATRIX

/x/ Indicates that Team, ISEG, PORC
and Plant Manager review
completed.

SYSTEM NUMBER	SYSTEM	1				2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		A	B	C (1)	D																						
15	PLANT MONITORING COMPUTER	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22-3	FIRE PROTECTION - HALON	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
43H	RCB HYDROGEN RECOMBINERS/ ANALYZER	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
64	CONTROL ELEMENT ASSY. CALCULATOR	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
65B	INCORE NUCLEAR INSTRUMENTATION	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
65C	MOVABLE INCORE NUCLEAR INSTRUMENTATION	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
69	VIBRATION & LOOSE PARTS MONITOR	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TABLE B-4

SAFETY REVIEW SUMMARIES

Issue #1 - Inspection Personnel Issues

This issue was evaluated on a contractor basis.

Issue #1A - Mercury

Subgroup C - Mercury did perform safety related work on the system and safety evaluations were performed to assure LP&L management that Waterford Steam Electric Station #3 can be safely operated without compromising the health and safety of the public.

Issue #1 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
43-H	RCB Hydrogen Recombiners/ Analyzers	Installation of safety related instrumentation was inspected by potentially unqualified inspectors. The quality of safety related instrumentation associated with this system was verified. Verification was accomplished by reinspection of N1 instrument loops. Satisfactory completion of this program involving Mercury installations verifies acceptance of the installations. Accordingly, this issue does not serve as a constraint to the safe operation of these systems, and has been resolved and closed out by LP&L.
64	Control Element Assy. Calculator	

Issue #1B - Tompkins-Beckwith

Subgroup C - Tompkins-Beckwith did perform safety related work on the system, and safety evaluations were performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #1 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
43-H	RCB Hydrogen Recombiners/ Analyzers	Work performed on this system was inspected by potentially unqualified inspectors. To close out the concern LP&L verified the qualifications of the initial inspectors. LP&L also verified qualifications of the inspectors performing any over-inspection. Over-inspection provided to meet the ASME Code requirements for third party Authorized Nuclear Inspection services and independent Preservice Inspection in conjunction with other inspection programs, hydrostatic testing, and Pre-Core Hot Functional Testing confirm the acceptability of hardware installed by Tompkins-Beckwith.

Issue #1C - Other Contractors

Subgroup C - Other Contractors (other than Mercury and Tomkins-Beckwith) did perform safety related work on a number of systems and safety evaluations are being performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #1C impact beyond initial criticality remains to be evaluated.

Issue #2 - Missing N1 Instrument Line Documentation

None of the instrument installations to be reworked to comply fully with ASME III requirements are contained in the systems.

There are no Subgroup C systems.

Issue #3 - Instrumentation Expansion Loop Separation

There are no instrument expansion loop separation violations of safety significance in these systems.

There are no Subgroup C systems.

Issue #4 - Lower Tier Corrective Actions Are Not Being Upgraded to NCR's

Subgroup C - DCN's, FCR's, EDN's and T-B DN's have been reviewed and it was determined that some documents should have been upgraded to NCR's. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #4 does have a potential effect on all systems in Table B-5.

The Evaluation reveals that a statistically acceptable number of lower tier documents were reviewed showing no significant quality impact (no cases were detected which were safety significant and would be reportable under 10CFR50.55e). Therefore it is possible to conclude with a 95% confidence level that 95% of the unsampled documents contain no significant deficiencies. Accordingly, this issue does not serve as a constraint to safe operation of the systems.

Issue #5 - Vendor Documentation - Conditional Releases

Subgroup C - With a review of QA/QC records it is concluded that there are no unresolved items which affect the systems, however Issue #5 does have a potential effect on all systems in Table B-5

The Evaluation reveals that during the review of QA/QC records conditional release items which affected systems were evaluated and closed out by LP&L with receipt of the "unconditional" paperwork. No items exist to affect the safety function of the systems.

Issue #6 - Dispositioning of Non-Conformance and Discrepancy Reports

Subgroup C - It was noted during a review of NCR's that some of the reports had questionable dispositioning potentially rendering the quality of installation indeterminate.

Issue #6 does have a potential effect on all systems in Table B-5.

The Evaluation included a combination screening and sampling method to review EBASCO NCR's including NCR's identified by the NRC and no items were identified which had significant safety impact on the systems. , Mercury NCR's were reviewed for upgrade and sampled to determine reportability to support the conclusion that the safety review is not effected.

Issue #7 - Backfill Soil Densities

Subgroup C - Data from the in-place density tests on the class A fill was potentially not traceable relative to the technical adequacy of the placements, therefore the impact on the the quality of the system may have been indeterminate. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #7 does have a potential effect on all systems in Table B-5.

The Evaluation reveals that the data for the in-place density tests performed on the class A fill has been located and has been transmitted to the QA records vault. Review and analysis of the records indicates that the Class A backfill soil densities are in accordance with specifications and FSAR requirements except for analytically non-significant deficiencies and do s provide the required design structural capacity for the plant under seismic loadings. Accordingly, this issue does not serve as a constraint to safe operation of the system, and has been resolved and closed out by LP&L.

Issue #8 - Visual Examination of Shop Welds During Hydrostatic Testing

Subgroup C - The system does include ASME Class 1 & 2 welds (shop and field) that were inspected during total system hydro in the field. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #8 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
43-H	RCE Hydrogen Recombiner/ Analyzer	ASME Class 1 & 2 welds (shop and field) were inspected and documented on ASME N-5 code data reports during total system hydro in the field. The ASME Class 1 & 2 welds (shop and field) were tested and inspected in accordance with ASME code, in the field. There is no deviation from FSAR requirements. Accordingly, this issue does not serve as a restraint to safe operation of these systems, and has been resolved and closed out by LP&L.

Issue #9 - Welder Certification

Subgroup A - The instrumentation cabinet support welding performed by J.A. Jones does not have an effect on the systems in Table B-5.

There are no Subgroup C systems.

Issue #10 - Inspector Qualifications - (J.A. Jones and Fegles)

No work was performed on these systems by J.A. Jones and Fegles.

There are no Subgroup C systems.

Issue #11 - Cadwelding

Subgroup C - Data from the cadweld testing program was potentially not traceable relative to the technical adequacy; therefore the impact on the system could have been indeterminate. A safety evaluation was performed to assure LP&L management the Waterford SES No. 3 can be safely operated without compromising the health and safety of the public.

Issue #11 does have a potential effect on all systems in Table B-5.

The Evaluation of cadweld records concluded that discrepancies noted were not significant to safety and would not have had any effect on the structural capability of the NPIS during operation and safe shutdown. The probability of an accident previously evaluated in the FSAR is not increased. Accordingly, this issue does not serve as a constraint to the safe operation of the systems, and has been resolved and closed out by LP&L.

Issue #12 - Main Streamline Framing Restraints

The main streamline framing restraints do not impact these systems.

There are no Subgroup C systems.

Issue #13 - Missing NCRs

Subgroup C - It was noted that there were missing reports in the consecutively numbered EBASCO and Mercury NCRs implying missing NCRs that may have rendered system quality indeterminate. A safety evaluation was performed to assure LP&L management that Waterford SES #3 can be safely operated without compromising the health and safety of the public.

Issue #13 does have a potential effect on all systems in Table B-5.

The Evaluation includes reviews of EBASCO and Mercury NCR documentation completed by LP&L QA. EBASCO and Mercury missing/voided NCRs and Mercury NCRs closed administratively have been determined to be properly dispositioned and closed. There are no unreviewed safety questions for this system pertinent to this issue.

Issue #14 - J.A. Jones Speed Letters and EIRs

Subgroup C - Contractors performing safety related work generated EIRs and Speedy Memos which transmitted design information that could potentially affect system quality. A safety review was performed to assure LP&L management that the system can be safely operated without compromising the health and safety of the public.

Issue #14 does have a potential effect on all systems in Table B-5.

The Evaluation included a sampling program to evaluate informal documents requesting engineering information from safety related contractors. Of all the samples reviewed those that resulted in design change deficiency had no safety significance. The program provides reasonable assurance that informal documents were not used to transmit design changes which have safety significance.

Issue #15 - Welding of "D" Level Material Inside Containment

Subgroup C - Class "D" material installation inside containment does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
43H	RCB Hydrogen Recombiners/ Analyzer	During the evaluation of Class "D" material installation inside containment the work and material under review was verified by LP&L. Contractor QA is of satisfactory quality, and this issue does not have an adverse effect on the safety analysis, system operability or margin to safety on these systems.
64	Control Element Assy. Calculator	
65B	Incore Nuclear Instrumentation	
65C	Movable Incore Nuclear Instrumentation	
69	Vibration & Loose Parts Monitor	

Issue #16 - Surveys and Exit Interviews of QA Personnel

Subgroup C - An interview program was instituted by LP&L to provide an additional avenue of communication to elicit information on quality concerns from personnel prior to leaving the Waterford SES No. 3 project. The concern was that the LP&L program may not have promptly or thoroughly examined the specific areas of concern and the programmatic implications of these systems. Issue #16 does have a potential effect on all systems in Table B-5.

The Evaluation reveals that all concerns are being reviewed under an improved quality concern program. Where there are issues not previously identified with potential safety related consequences, these issues are promptly reported to LP&L management. These concerns are properly addressed under LP&L required and approved management programs in a timely fashion. The program does not involve unreviewed safety issues.

Issue #17 - QC Verification of Expansion Anchor Characteristics

Subgroup C - Mercury, the subject of this concern, did install safety related instrumentation expansion anchors in these systems. A safety evaluation was performed to assure LP&L management that the system can be safely operated without compromising the health and safety of the public.

Issue #17 does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
43H	RCB Hydrogen Recombiner/ Analyzer	Inspection forms were used that do not explicitly cover all inspection attributes. The reinspection of all Mercury installed NI instrumentation and subsequent engineering evaluations indicates that the issue of expansion anchor characteristic inspection forms have no safety significance for these systems.
64	Control Element Assy.	

Issue #18 - Documentation of Walkdowns on Non-Safety Related Equipment

Subgroup C - Documentation of walkdown on non-safety related equipment does have a potential effect. A safety review was performed to assure LP&L Management that the System can be safely operated without compromising the health and safety of the public.

Issue #18 does have a potential effect on all systems in Table B-5.

The Evaluation included area inspections where the system is present and indicate no interactions of safety significance. Accordingly, this issue does not serve as a restraint to safe operation of these systems, and has been resolved and closed out by LP&L.

Issue #19 - Water in Basemat Instruments

Subgroup C - Water in basemat instruments does have a potential effect on:

<u>System #</u>	<u>System Description</u>	<u>Evaluation</u>
15	Plant Monitoring Computer	The present analysis for moderate energy pipe rupture flooding per the FSAR envelopes the concern for water seepage since this flow rate would be minimal. Accordingly, this issue does not serve as a restraint to safe operation of these systems, and has been resolved and closed out by LP&L.

Issue #20 - Construction Materials Testing (CMT) Personnel Qualifications
Records

The contractor in question did not do work on these systems.

There are no Subgroup C systems.

Issue #21 - LP&L QA Construction System Status and Transfer Reviews

All significant documentation and hardware dispositions were identified at the time status and transfer letters were transmitted for these systems. There are no unreviewed safety questions pertinent.

There are no Subgroup C systems.

Issue #22 - Welder Qualifications (Mercury) and Filler Materials Control
(Site Wide)

Subgroup C - The LP&L review of qualifications status documentation for all Mercury welders has been completed and the program does have a potential impact on the system. The weldment filler material controls did apparently deviate from code requirements.

Issue #22 does have a potential effect on all systems in Table B-5.

The Evaluation contains a clarification of the review finding on welder qualifications, and there are no potential unreviewed safety questions pertinent to this issue. "Rebaking" of low hydrogen electrodes was not practiced on the site and engineering justification demonstrates that while there were limited deviations from code specifications however this did not cause degradation of quality of weldment filler material.

Issue #23 - QA Program Breakdown Between EBASCO And Mercury

The concern is not directly related to the systems under review and is considered to be programmatic in nature.

There are no Subgroup C systems.

TABLE B-5

ISSUES

SYSTEM	No. 1 Inspection Personnel Issues			No. 2 Missing NI Instrument Line Docu- mentation			No. 3 Instrumen- tation Ex- pansion Loop Separation			No. 4 Lower Tier Corrective Actions are not being Upgraded to NCRs			No. 5 Vendor Docu- mentation - Conditional Releases			No. 6 Disposition- ing of Non- Soil conformance and Discrep- ancy Reports			No. 7 Backfill Densities			No. 8 Visual Exam- ination of Shop Welds During Hydrostatic Testing		
	(A)	(B)	(C)																					
15 - Plant Monitoring Computer	A	B		A			B			C			C			C			C			A		
22-3 - Fire Protection - Halon	A	B		A			B			C			C			C			C			A		
43H - RCB Hydrogen Recombiner/ Analyzer	C	C		A			B			C			C			C			C			C		
64 - Control Element Assy. Calculator	C	B		A			B			C			C			C			C			A		
65B - Incore Nuclear Instrumentation	A	B		A			B			C			C			C			C			A		
65C - Movable Incore Nuclear Instrumentation	A	B		A			B			C			C			C			C			A		
69 - Vibration & Loose Parts Monitor	A	B		A			B			C			C			C			C			A		

TABLE B-5

ISSUES

SYSTEM	No. 9	No. 10	No. 11	No. 12	No. 13	No. 14	No. 15	No. 16
	Welder Cer- tification	Inspector Qualifica- tions (J.A. Jones & Fegles)	Cadwelding	Main Steam- line Framing Restraints	Missing NCRs	J.A. Jones Speed Letters and EIRs	Welding of "D" Level Material Inside Containment	Surveys and Exit Interviews of QA Personnel
15 - Plant Monitoring Computer	A	A	C	A	C	C	A	C
22-3 - Fire Protection - Halon	A	A	C	A	C	C	A	C
43H - RCB Hydrogen Recombiner/ Analyzer	A	A	C	A	C	C	C	C
64 - Control Element Assy. Calculator	A	A	C	A	C	C	C	C
65B - Incore Nuclear Instrumentation	A	A	C	A	C	C	C	C
65C - Movable Incore Nuclear Instrumentation	A	A	C	A	C	C	C	C
69 - Vibration & Loose Parts Monitor	A	A	C	A	C	C	C	C

TABLE B-5

ISSUES

SYSTEM		No. 17	No. 18	No. 19	No. 20	No. 21	No. 22	No. 23
		QC Verifi- cation of Expansion Anchor Char- acteristics	Documen- tation of Walkdowns on Non-Safety Related Equipment	Water in Basemat Instruments	Construction Materials Testing (CMT) Personnel Qualifica- tion Records	LP&L QA Construc- tion System Status and Transfer Reviews	Welder Qualifica- tions (Mercury) and Filler Material Control (Site Wide)	QA Program Breakdown Between Ebasco and Mercury
15	- Plant Monitoring Computer	A	C	C	A	A	C	A
22-3	- Fire Protection - Halon	A	C	A	A	A	C	A
43H	- RCB Hydrogen Recombiner/ Analyzer	C	C	A	A	A	C	A
64	- Control Element Assy. Calculator	C	C	A	A	A	C	A
65B	- Incore Nuclear Instrumentation	A	C	A	A	A	C	A
65C	- Movable Incore Nuclear Instrumentation	A	C	A	A	A	C	A
69	- Vibration & Loose Parts Monitor	A	C	A	A	A	C	A

ATTACHMENT C

STATUS OF COMPLETION

OF FUEL LOAD ITEMS

STATUS OF COMPLETION OF FUEL LOAD ITEMS

LICENSING COMMITMENTS

All licensing commitment action required by LP&L are completed.

SIGNIFICANT CONSTRUCTION DEFICIENCIES

Final reports or interim reports with justifications for interim operation will be complete and submitted to Region IV by COB this date.

INSPECTION REPORT ITEMS

Completion of LP&L required actions for inspection report items is complete with the exception of five (5) items from a recent inspection report (84-31) which are expected to be complete by 11/5/84.

FUEL LOAD (MODE 6) PREREQUISITE WORK ITEMS

Work items required for Mode 6 will be complete by COB this date.

TECHNICAL SPECIFICATION SURVEILLANCES

Surveillances required by technical specifications prior to entering into Mode 6 will be complete by COB this date with the exception that specific items which are related to being performed within 8 hours prior to fuel load and 72 hours prior to fuel load. These exceptions will be completed on the required schedule following a licensing decision and establishment of a fuel load date.