

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

'85 MAY -7 AIO:19

In the Matter of )  
 )  
LOUISIANA POWER AND LIGHT COMPANY )  
 )  
(Waterford Steam Electric Station, )  
Unit 3) )

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
Docket No. 85-382 OL  
BRANCH

JOINT INTERVENORS' RESPONSE TO NRC STAFF AND LOUISIANA  
POWER AND LIGHT COMPANY RESPONSES TO ALAB-801

Pursuant to this Atomic Safety and Licensing Appeal Board ("Appeal Board") Memorandum and Order of March 22, 1985 ("ALAB-801"), Joint Intervenors submit the following response to the Nuclear Regulatory Commission ("NRC" or "Commission") and Louisiana Power and Light Company ("LP&L") responses.

- I. THE NRC STAFF FAILS IN SSER-9 AND ITS MOST CURRENT RESPONSE TO PROVIDE SUBSTANTIATION FOR ITS CLAIM THAT LP&L HAS RESOLVED THE QUALITY ASSURANCE BREAKDOWN AND VERIFIED THAT WATERFORD IS CONSTRUCTED SAFELY.

This Appeal Board requested that the Staff explain and support its conclusion in SSER-7 and SSER-9 that the quality assurance ("QA") breakdowns described in these two supplements to NUREG-0787 have been corrected so that the safety of Waterford's construction and future operation may be ensured. ALAB-801 at 11-13. Specifically, it requested that the Staff explain its current position on Allegation 48, discussed in SSER-7, and Issue 23, discussed in SSER-9. Id. at 13.

The NRC Staff response to these two issues, presented largely through the Affidavits of J. Harrison and D. Crutchfield,

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provide the Appeal Board with little more support than SSER-7 and SSER-9 for the NRC Staff's current opinion that LP&L has remedied the QA failings of the past. In most cases the NRC Staff and LP&L have been vague as to the corrective actions taken to verify the quality of Waterford's construction; corroborated Joint Intervenors' claims that the QA problems have continued throughout the construction of Waterford and that LP&L failed to take any corrective action except under severe pressure from the NRC; and placed in relief the need for adjudicatory hearings to ensure that the past QA breakdown has not left indeterminate the construction quality of Waterford 3.

Given the failure of the NRC Staff or LP&L to be specific as to the percentage of reinspection of safety-related systems and components; the amount of documentation reviewed; the systems walked-down; and the problems found, this Appeal Board has no choice but to order adjudicatory hearings. The NRC Staff has not provided the specific basis to demonstrate that after a quality assurance breakdown of the magnitude suffered at Waterford 3 LP&L has done adequate testing, reinspection, re-review and engineering analysis to assure the plant's safety.

A. The NRC Staff's Claim that Allegation 48 Involved Largely the Breakdown of the LP&L, Ebasco, and Mercury Audit Function Is Not Valid.

The NRC Staff claims that Allegation A-48 involved only the breakdown of the "audit element of Mercury, Ebasco, and LP&L's QA programs." Harrison Affidavit, at 16. The Staff then contends that since audits are the "third level of assurance" there is less need to be concerned about their deficiencies. Ibid.

However, it is clear from the discussion of this allegation in SSER-7 that this allegation included a "complete QA breakdown" which could affect the quality of all Mercury construction.

<sup>1</sup>  
SSER-7, App. J at 96.

The NRC Staff's contention at this time that this allegation involved only a "partial" QA breakdown cannot be substantiated. Harrison Affidavit at 20.

The Staff next argues that any concern about the quality of Mercury's work has been resolved by 100 percent reinspection of the work of Mercury N-1 instrumentation installation. It states that since no significant hardware problems were found with this

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1. A draft of this section of SSER-7 makes even clearer that Allegation 48 included a breakdown of all QA functions. In the section entitled "Assessment of Allegation" the NRC Staff described the implied significance of the allegation in the following way:

That is, quality control inspectors did not do adequate inspections; Mercury personnel did not have the freedom to write nonconformance reports ("NCR's") and obtain effective corrective action; EBASCO and Mercury did not follow any procedure; QA records did not adequately document QA activities; and the licensee and contractors' audit program, which is the last defense for identifying QA/QC problems, was not adequately implemented.

See Draft of Allegation A-48, at 1-2, attached and incorporated herein as Exhibit 1.

Joint Intervenors realize that this Appeal Board previously struck a portion of their proffered reply of February 25, 1985, which tendered this exhibit. However, the Appeal Board did not specifically address the usefulness of this exhibit but held that Joint Intervenor's supplemental argument on this point was unnecessary. Memorandum and Order (March 14, 1985), Slip. Op. at 6 n.4. At this time Joint Intervenors believe that argument on this point is appropriate in response to the NRC Staff's discussion of Allegation 48.

safety-related work, 100 percent reinspection of Mercury's other  
safety-related work was not needed.<sup>2</sup>

It is true that the NRC has not established set procedures or regulations to verify the quality of a plant's safety-related work after a plant has been completed and the Staff concludes that the utility's quality assurance program has not functioned over the life of its construction. However, at other troubled plants such as Zimmer and Midland, the NRC Staff has required 100 percent reinspection of safety-related work in those areas where the work is accessible and the QA program has historically failed to provide the required quality check. The Staff has required nondestructive or other types of testing to verify the quality of safety-related work which is not accessible. At Waterford by contrast the NRC Staff has required minimal reinspection even for the egregious QA breakdown for Mercury's work.

In addition to the QA problems described in Allegation 48, SSER-7, and Issue 23, SSER-9, the NRC Staff documented problems with qualification of Mercury welders and welding procedures, Issue 22, SSER-9; improper dispositioning of Mercury NCR's, Issue 6, SSER-9; voided or missing Mercury NCR's, Issue 13, SSER-9; and lack of qualification of Mercury QC/QA personnel, Issue 1, SSER-9. Yet the Staff in this "worst case" has not required a comprehensive reinspection of all Mercury's safety-related work. For Issue 22, the Staff has apparently not required reinspection of a

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2. The Staff also argues that all N-2 instrumentation installed prior to mid-1982 was 100 percent reinspected by qualified EBASCO QC inspectors. Harrison Affidavit at 19.



significant portion of the welds done by unqualified welders, but merely concluded that since "most of the Mercury welders reviewed" were qualified to make groove welds, and a welder qualified to make groove welds is also qualified to make fillet welds, that Mercury welders were sufficiently qualified to do their work at Waterford. SSER-9, App. J at 82-83. This is the equivalent of stating that "most" of the welds were done by welders "mostly" qualified to do them. This is hardly the rigorous standard which the welding codes for nuclear safety-related work require.

Regarding improper dispositioning of Mercury NCR's, the Staff allowed merely a paperwork review, redistribution, and re-analysis, and required minimal reinspection. Harrison Affidavit at 32. The Staff permitted this type of corrective action even though the Office of Investigations ("OI") is investigating potential falsification of QA documentation and much Mercury documentation is not original or complete.

As discussed in detail in Joint Intervenor's Reply to Applicant and NRC Staff Responses to Joint Intervenor's Motion to Reopen (Jan. 25, 1985), at 15-19, the NRC Staff applied very lenient standards to qualify QC inspectors, including Mercury QC personnel, and then required little reinspection of the work of those QC inspectors who could not meet this degraded standard.

The needed confidence in Mercury's safety-related work cannot be gleaned from LP&L's minimal corrective action at Waterford. The NRC Staff has largely detailed the numerous QA fail-

ings which throw into question the quality of Mercury's work but described little corrective action that would resolve these questions.

B. The NRC Staff's Conclusory Statements about LP&L's Corrective Action Do Not Provide Adequate Assurance of the Quality of Waterford's Construction.

The NRC Staff has repeated its conclusion that the corrective actions LP&L has taken since the Eisenhut Letter of June 13, 1984, provide adequate assurance of the quality of Waterford's construction. Harrison Affidavit at 25-30. It claims that its conclusion that these 23 items listed in the Eisenhut lack collective safety significance corroborates LP&L's identical conclusion. Id. at 30.

However, the NRC Staff's reasoning is faulty in several respects. First, LP&L's assessment was not reached independently of the NRC Staff's. LP&L and the Staff together, in ad hoc, private conferences, developed a common approach to resolving the 23 items. As is clear from the numerous revisions to LP&L's corrective action program, LP&L never put forward a definite program accepted or rejected by the NRC but instead proffered a series of continually-revised approaches to the problems. Moreover, as explained in Harrison's earlier affidavit, the NRC Staff assisted LP&L in developing these approaches in a series of closed meetings. Harrison Affidavit (Feb. 28, 1985), at 13-14. Therefore, the Staff cannot claim today that its assessment of the individual and collective significance of the 23 issues of potential safety significance is "independent" or developed

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separately from LP&L's response. Harrison Affidavit at 29.

The need for the Staff to provide such intensive assistance to LP&L in developing and implementing a corrective action program reflects poorly on the company's willingness to identify and correct safety problems on its own, a critical requirement for NRC licensees. Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-106, 6 AEC 182,184 (1973).

More importantly, the NRC Staff and LP&L have failed to support their conclusion that adequate corrective action has been taken to resolve the 23 items of potential safety significance outlined in the Eisenhower Letter. The Staff's claim that LP&L has integrated the lessons learned from its past failings into a good Operations QA Program does nothing to verify the quality of Waterford's construction. Harrison Affidavit at 28-30.

Moreover, neither LP&L nor the NRC Staff has ever specifically described the corrective action LP&L has supposedly taken. In its most recent filing, the NRC Staff has stated that Issues 5, 7, 8, 11, 13 and 16 were resolved by document reviews; "reconciling and correlating records"; and statistical and engineering analyses. Id. at 27. Yet nowhere described is the percentage of the documentation reviewed; the percentage of records reconciliated and correlated; or the amount and type of statis-

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3. At the Zimmer, Midland and Diablo Canyon plants, once the NRC Staff had documented a QA breakdown, the agency provided for channels of public participation to ensure these problems were adequately resolved. The public, including intervenor groups, made useful suggestions about the reform programs. Moreover, encouraging this public participation enhanced the credibility of the final programs carried out by the utilities.

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tical and engineering analyses performed. Moreover, the Appeal Board can gain little confidence in any paperwork review when OI's investigation focuses specifically on possible falsification of QA documentation and improper intimidation and harassment of QA/QC personnel. The quality of all QA documentation must be suspect at best, and totally discounted in the worst cases. Certainly without some reinspection, the NRC Staff cannot claim these record problems are resolved.

Further, with regard to Mercury's work, the NRC Staff has admitted that documentation problems were correlated with hardware deficiencies. SSER-7, App. 7, at 99. Therefore, even if LP&L can somehow logically "reconcile" the QA records, it is possible if not likely that the faulty QA records indicate faulty construction work.

The NRC Staff has stated that LP&L has resolved Issues 1, 4, 9, 10, 14, 17, 18, 20, 21, and 22 by performing "hardware re-inspections, engineering evaluations and statistical sampling." Nowhere is the percentage of reinspection done of safety-related

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4. In only a few instances has the NRC Staff provided sufficient information in SSER-9 so that one can determine the percentage of documents LP&L reviewed. For example, to resolve Issue 11, LP&L apparently reviewed 100 percent of the testing records for cadwelds. However, tests were conducted on only about four percent of the questionable cadwelds. SSER-9, App. J, at 55.

LP&L reviewed 100 percent of the soil packages which were questioned by the NRC under Issue 7. Id. at 36.



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systems described in the NRC Staff submissions. Joint Intervenor<sup>5</sup>s have described the minimal reinspection required of the work of unqualified QC inspectors (Issue 1). Joint Intervenor's Reply, supra, at 15-19. The NRC Staff has replied that other means were used to verify the quality of the work. However, as explained above, methods other than reinspection are unlikely to be adequate substitutes.

The NRC Staff has stated that LP&L performed "minor hardware changes" to resolve issues 1, 2, 3, 6, 12, 15 and 19. Harrison Affidavit at 27. Nowhere described or documented are these "minor" changes or the problems they were meant to remedy.<sup>6</sup>

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5. Occasional references to the reinspection or document review sample size prove the rule that neither the NRC Staff nor LP&L document consistently the percentage of reinspection and review LP&L performed. In response to Issue 1 concerning lack of qualification of QC and QA personnel, LP&L has done a 100 percent reinspection of all N-1 instrumentation installation, and a 35 to 100 percent reinspection of tubing and tube track supports. Id. at 13-14. LP&L has conducted a 100 percent documentation review of Tompkins-Beckwith's work, id. at 17, and admitted that LP&L and Ebasco reinspected only about three percent of Tompkins-Beckwith's work. NRC Staff Further Response Pursuant to Appeal Board's Order of February 13, 1985 (Feb. 28, 1985), at 25.

To close-out Item 4, LP&L reviewed no more than .3 percent of lower-tier documents (900 out of 32,000) and did no reinspection. J. Cain Letter to D. Eisenhower (Oct. 19, 1984), at 4-4.

To resolve Item 14, LP&L started with a 10 percent review of contractors' Information Reports and gradually increased the sample size to 13 percent because of the large number of design control problems it detected. SSER-9, App. J, at 61-62.

6. Through review of SSER-7 and SSER-9 Joint Intervenor<sup>6</sup>s determined that LP&L has done at least the following rework:

(footnote continued on following page)

Therefore the NRC Staff has provided no accountability for its and LP&L's conclusion that the changes were "minor" or sufficient to remedy the identified problems. Without such accountability, this Appeal Board cannot find that the NRC Staff's glib assurances satisfy its concern about the quality of Waterford's construction.

- C. The NRC Staff's Conclusion that LP&L Has Honestly and Effectively Carried Out its Corrective Action Program Is Suspect in Light of the Unresolved "Integrity Concerns" about LP&L Managers Heading the Program.

A more basic problem with the NRC Staff's conclusion is that it has largely relied on LP&L managers to carry out LP&L's proffered corrective action program rigorously and honestly when they have demonstrated they do not have sufficient integrity and honesty to do so. See Joint Intervenors' Motion to Reopen (Nov. 7, 1984), at 15-32. Specific individuals who headed up LP&L's corrective action effort, including Thomas Gerretts, LP&L Corporate QA Manager, are themselves under suspicion for potential deliberate circumvention of safety regulations. Certainly, there exists an inherent conflict of interest for these individuals to have headed the corrective action program since any problems they identify will be ones for which they will be held responsible.

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(footnote continued from previous page)

a) Issue 2: LP&L has reworked 18 N1 instrumentation installations, SSER-9, App. J, at 20;

b) Issue 6: LP&L performed rework for five Ebasco NCR's prior to February, 1984, and two NCR's after February, 1984; id. at 30; and

c) Issue 12: LP&L replaced 850 bolts, or about seven percent of the 12,000 bolts inspected, id. at 57.

LP&L acknowledged as much in its attempts during the summer of 1984 to determine the targets of the OI investigation for the alleged purpose of removing them from any role in its corrective action program. Id. at 16 and Exhibit 46.

Moreover, from remarks made by NRC Commissioner James Asselstine, in voting against grant of an operating license for Waterford, it appears there is evidence that LP&L senior managers have not always been candid and forthright with the agency. See Transcript of March 15, 1985 Commission Meeting, at 107, attached<sup>7</sup> and incorporated herein as Exhibit 2.

Given these "integrity" concerns, this Appeal Board cannot find that LP&L's corrective action program, directed by individuals under suspicion, adequately resolves the past QA breakdown, at least prior to the completion of OI's investigation.

In an order issued on May 2, 1985, the Appeal Board directed OI representatives to appear before it in an in camera, ex parte hearing on May 30, 1985. Notice (May 2, 1985). The Appeal Board has ordered this hearing and prior briefings of the Board on the status of OI investigations pursuant to the Commission's "Statement of Policy: Investigations, Inspections, and Adjudicatory Proceedings," 49 Fed.Reg. 36,032 (1984)

In order to preserve their position on any possible appeal of this action Joint Intervenors respectfully move this Board

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7, Commissioner Asselstine also noted that the Office of Investigations was continuing to investigate a number of so-called "integrity issues" and to him "one of these items is significant." Ibid.

that they be allowed to participate in any such briefing of the Appeal Board under restriction of any appropriate protective order to prevent public disclosure.

Joint Intervenors understand that the Appeal Board is bound by the Commission Policy Statement but interject their objection to an in camera, ex parte proceeding at this time in order not to waive their objection to this Commission procedure.

D. The NRC Staff's Reliance on NRC Efforts to Ensure Waterford's Future Safe Operation is Unwarranted.

The NRC Staff has argued that its inspection efforts; its walkdown of safety systems; and its oversight of LP&L efforts have guaranteed the safe construction and will assure the future safe operation of Waterford. See, e.g., Harrison Affidavit at 35-38. Clearly the NRC Staff has neither the resources nor the responsibility to guarantee that an unwilling licensee will comply with NRC regulations. It is only a willing and honest licensee which can ensure Waterford's safe operation.

The NRC Staff also argues that once deficiencies are identified, LP&L has corrected them prior to turnover of systems. Id. at 49. However, LP&L's history at Waterford is the opposite. It failed to correct problems identified in the December, 1982 Notice of Violation ("NOV") and failed to acknowledge, much less correct, problems identified by the NRC's Inquiry Team and CAT Inspection effort. See Joint Intervenors' Motion to Reopen, at 32-34 and Exhibit 9.

Further, how can LP&L's QA program be credited with identifying the problems with systems' turnover, Harrison Affidavit at 49, when LP&L did nothing to correct the problems either



before the NRC NOV or after? As late as June, 1984, LP&L had still failed to take adequate corrective action to resolve the QA breakdown documented in December, 1982.<sup>8</sup>

II. THE NRC STAFF HAS PROVIDED NO SUPPORT FOR ITS ASSERTION THAT LP&L CAN BE TRUSTED TO MANAGE WATERFORD SAFELY IN THE FUTURE GIVEN ITS LONG HISTORY OF FAILING TO MEET COMMITMENTS TO THE NRC.

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In addressing the Appeal Board's question about LP&L's current capability to operate Waterford safely in light of its past failure to implement adequately its QA program, ALAB-801 at 13, and Joint Intervenors' charge B(4), the NRC Staff provides no support for its current endorsement of LP&L management.

Dennis Crutchfield states merely that LP&L has responded adequately to Issue 16 by employing a consultant and establishing its own team to follow up on employee interviews begun in January, 1984. Crutchfield Affidavit at 7-8. He also notes that the NRC has no requirement that utilities set up a formal program to survey QA personnel to determine QA problems. *Id.* at 10.

Mr. Crutchfield misses the point of charge B(4). LP&L committed to this interview program in order to identify QA problems, and to satisfy the NRC's growing concern about Waterford's QA breakdown. Certainly, LP&L's failure to resolve problems once identified reflects poorly on the company's initiative and its basic management capabilities. It was only after the NRC forced

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8. The NRC Staff relied on LP&L and contractor walkdowns following the 1982 NOV to assure proper turnover of systems to Ebasco and LP&L. Harrison Affidavit at 35-36. However, it is clear from the CAT inspection findings alone that these walkdowns were not sufficient to ensure that nonconforming conditions in safety systems were fixed prior to turnover to LP&L.

on LP&L a corrective action program that the utility began to resolve the problems. NRC licensees are expected to resolve all potentially safety-significant problems, whether they come to light by means of a voluntary or a required program.

NRC inspector Raymond Mullikin supports Joint Intervenor's claim that LP&L failed to correct QA and construction deficiencies although it had previously committed to do so. Mullikin Affidavit at 2-3. However, he claims this is not of current concern to the NRC because eventually LP&L did correct many of the deficiencies. Id. at 3-6.

Yet again the NRC Staff misses the point that the NRC had to identify the problems over and over again to LP&L before it took appropriate corrective action. Moreover, the NRC Staff continued to find that the corrective action which LP&L took was deficient. Id. at 6-8. The Staff found discrepancies in a field inspection of 50 pipe supports and restraints which led to a second LP&L QA walkdown. That inspection discovered that fully 400 supports or restraints required some rework. In addition, the NRC Staff found that LP&L had violated site procedures in its maintenance of safety-related motors. Although the Staff found the deficiencies were minor and not of safety significance, it is disturbing that even though the NRC had pointed out these problems in several inspections, LP&L did not implement corrective action which fully satisfied all requirements. Id. at 57.

III. THE NRC STAFF HAS NOT SUBSTANTIATED ITS CLAIM THAT LP&L'S HISTORIC FAILURE TO MAINTAIN ADEQUATE QA STAFFING HAS NOT AFFECTED THE SAFETY OF WATERFORD'S CONSTRUCTION.

The NRC Staff, in response to Joint Intervenors' "charges" A(1)(b) and B(5), has admitted that LP&L historically failed to maintain adequate QA staffing, which led to the QA breakdown. Harrison Affidavit at 46-47; Constable Affidavit at 3-6. However, it also claims that QA staffing, both Construction and Operations, increased dramatically starting in 1982, when LP&L began to realize the potential detrimental effects of inadequate staffing. Harrison Affidavit at 48; Constable Affidavit at 9, 15-16. The Staff also contends that LP&L and NRC's reinspection and review efforts since June, 1984, demonstrate that LP&L's chronic failure to maintain adequate staffing has not impacted the safety of Waterford's construction. Harrison Affidavit at 48; Constable Affidavit at 10-11.

However, Joint Intervenors believe that the Staff has not proven that LP&L's minimal reinspection and review efforts show Waterford's safe construction. Moreover, the Staff has failed to address a second central point of Joint Intervenors' charges: LP&L has since as early as 1978 ignored repeated warnings that its chronically understaffed QA program was endangering the safe construction of Waterford.

Constable, for example, states that it mattered little that LP&L ignored a 1978 internal memorandum which called for the addition of a QA engineer. Constable Affidavit at 9-10; Exhibit 7 to Joint Intervenors' Motion to Reopen. Moreover, Constable claims that the NRC did not require LP&L to conduct the MAC audit

and so it matters little that LP&L ignored the audit's recommen-  
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dation for increased staffing. Constable Affidavit at 7.

The NRC Staff does not address the central issue that LP&L either negligently or deliberately ignored repeated warnings that its deficient QA staffing was affecting the quality of Waterford's construction.

The NRC Staff's claim that QA staffing increased dramatically since 1982 means little unless one determines whether this additional QA staff was devoted to construction QA or operations QA. It is inevitable that the staff for Operations QA would increase at the end of construction to work on procedures and testing. This staff would not serve to verify the quality of the plant's construction or ensure the yet-to-be completed construction was safe. Without knowing the specific number of additional construction QA personnel and their specific functions, the NRC Staff's claim that QA staffing increased dramatically since 1982 tells the Appeal Board little about the quality of Waterford's construction or LP&L's attitude toward QA.

The Staff appears to excuse LP&L's failure to deal with Mercury's failings until 1983, when LP&L terminated Mercury, by stating that LP&L needed first to replace Mercury with a qualified ASME "N" Stamp Holder. Harrison Affidavit at 7. Certainly LP&L and Ebasco's primary concern should have been that Mercury do the instrumentation work in compliance with all NRC and job

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9. Constable states also that the NRC Staff learned of the MAC audit for the first time in a Gambit newspaper article. Ibid. It appears that LP&L should have disclosed the report to the NRC pursuant to 10 CFR 50.55(e) since the deficiencies noted disclosed a breakdown in the QA program and potentially affected the safety of the plant's construction.



requirements, and the cost and schedule concerns should have been secondary. Apparently, the NRC Staff is willing to excuse Mercury's shoddy work during the interim time when LP&L was obtaining a new subcontractor. This Appeal Board should not be as willing to tolerate LP&L or Ebasco's placing cost and scheduling concerns before safety.

The NRC Staff also points to a March, 1982 ACRS Memorandum which suggests that LP&L's prior staffing shortages were resolved. Constable Affidavit at 15 and Exhibit 5. However, it is clear that given the NRC's continuing concern about inadequate staffing up through June, 1984, the ACRS' hopes in March, 1982, that the problem had been resolved were simply wishful thinking.

More importantly, it appears that despite whatever increases in construction QA and operations staffing Ebasco made beginning in 1982, LP&L did not significantly increase its construction QA staffing until much later. Constable Affidavit at 6. Without such increased staffing LP&L could not assume effective control over Ebasco. This did not occur until 1984, when the NRC required of LP&L a formal corrective action program. It is precisely this refusal or chronic inability of LP&L to heed early warnings of safety problems which Joint Intervenors argue show LP&L's lack of character to operate a nuclear power plant.

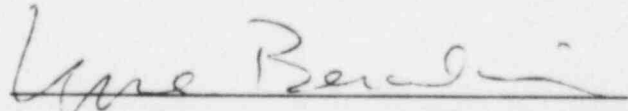
The NRC Staff also argued that the QA breakdown noted in its December, 1982 Inspection Report 50-382/82-14, was "partial" because it occurred in the subtier between Ebasco and Mercury. Constable Affidavit at 5; Exhibit 1. However, during this time, LP&L had abdicated effective control over QA to Ebasco so that

the failure of Ebasco adequately to control Mercury's work demonstrated a lack of any QA controls over instrumentation installation. Therefore, this subtler breakdown was in effect a "total QA breakdown" for the installation of instrumentation.

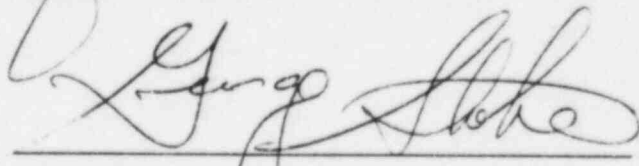
IV. CONCLUSION.

In light of the foregoing arguments and documentation of the serious and as-yet unresolved quality assurance breakdown at Waterford, this Appeal Board should grant Joint Intervenors' motion to reopen the record of these licensing proceedings for litigation of whether LP&L has constructed Waterford safely and whether LP&L has the requisite character and competence to operate Waterford safely in the future.

Respectfully Submitted,



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DATED: May 6, 1985

## EXHIBIT 1

## SSER

Task: Allegation A-48, A-60, A-295

Reference No.: 4-83-A-88/2b; 4-83-A-88/12; 4-84-A-06/176

Characterization: A Complete Breakdown in the QA Program between EBASCO and the Mercury Company, of Norwood (Contract W3 N.Y. 15)

Assessment of Allegation: The implied ~~safety~~ significance of this allegation is that, a "complete" QA breakdown occurred. That is, quality control inspectors did not ~~do~~ adequate inspections; Mercury personnel did not have the inspections; Mercury personnel did not have the freedom to write Nonconformance Reports (NCRs) and obtain effective corrective action; EBASCO and Mercury did not follow any procedure; QA records did not adequately document QA activities; and the licensee and contractors audit program, which ~~is the last defense for identifying QA/QC problems~~, <sup>was not adequately implemented.</sup> ~~This breakdown naturally extends to Louisiana problems.~~ <sup>also</sup> This breakdown naturally extends to Louisiana Power & Light (LP&L), <sup>because as</sup> ~~since they are~~ the applicant for <sup>the</sup> A license, and the holder of the construction permit, ~~this alleged breakdown could cause the quality of construction to be questionable~~. <sup>and the validity of the work at the site</sup>

5/30/84 (TSK4)

*Handwritten: Inspector General's Office Page II*

~~Reg. IV~~ NRC Report (No. 50-382/82-14, ~~pages 8-12~~) describes a small LP&L QA staff (4-6 positions) and a heavy reliance on EBASCO Construction management for "onsite Construction QA". In turn, EBASCO QA (10 auditors) audited QA programs of other onsite contractors and, because these auditors had additional duties ~~other than auditing that~~ <sup>was a</sup> limited their effectiveness <sup>audit</sup>. LP&L's annual of EBASCO included a review of 143 audits conducted by EBASCO QA <sup>in</sup> during 1981. The audit summary concluded that EBASCO audit program was adequate but ~~that~~ measures should be established by EBASCO to determine the effectiveness of the contractor QA program. EBASCO ~~QA~~ response did not address the summary comments.

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The report ~~referenced above~~ stated that in early 1982 EBASCO submitted ~~4~~ <sup>four</sup> ECCS systems to LP&L for turnover. LP&L audit of these turnover packages included QA records review and ~~an~~ walkdown inspection of systems. ~~All 4~~ <sup>the</sup> systems were rejected. LP&L reported this QA breakdown to ~~the~~ NRC on May 26, 1982, <sup>as</sup> ~~Reference~~ Potentially Reportable Incident No. 80. <sup>which</sup> ~~later~~ <sup>changed to</sup> significant Deficiency Report 57, "Inadequate Instrumentation and Control Installations and Turnover Documentation." Because of serious problems with "as-built drawing and deficient installation of I&C systems," ~~the~~ NRC imposed a civil penalty in ~~NRC Letter 50-382 EA 82-109 dated~~ December 6, 1982.



5/30/84 (TSK4)

LP&L (Letters <sup>W</sup> 3183-0001 and 0015) <sup>dated</sup> January 4, 1983, and April 8, 1983, respectively) responded to ~~the~~ NRC Inspection Report and Notice of Violation. They <sup>in</sup> acknowledged ~~there was~~ a partial breakdown in the Waterford 3 QA Program "at the sub-tier levels and involving contractor/subcontractor organizations identified in USNRC Inspection Report 50-382/82-14." <sup>the reason for</sup> ~~The reason for~~ the violation was stated to be caused by: (1) insufficient training of inspectors, QA reviewers, and craftsmen, (2) inadequate staffing, and (3) inadequate walkdown of completed systems. <sup>Steps were</sup> ~~Steps were~~ outlined <sup>to take</sup> ~~to take~~ corrective action in these areas by April 4, 1983; however, the last LP&L letter ~~dated~~ April 5, 1984, stated that "final review of corrective action documentation is scheduled to be completed in late May 1984. The Final Report will be submitted to the NRC on June 15, 1984."

Because of the above quality assurance and enforcement history the NRC determined that ~~the methodology to followup~~ this allegation <sup>should be as</sup> follows: ~~(1) evaluate the implementation of Mercury QA Program, (2) evaluate EBASCO QA Program, and (3) evaluate LP&L QA Program by evaluating the audit programs and resultant corrective action with respect to the extent and cause of the QA breakdown at the licensee, EBASCO and Mercury.~~ <sup>at CP&L</sup> ~~at the licensee, EBASCO and Mercury.~~ <sup>at Mercury</sup> ~~at Mercury~~ additional problems were identified <sup>at Mercury</sup> ~~at Mercury~~ then audits of other contractors ~~would be evaluated for similar QA program deficiencies.~~

# Mercury Company Audits and Corrective Actions

Review of Mercury Audits and Corrective Action The NRC staff reviewed and evaluated QA Manual (QAM), Sections 1 through 18; procedures QCP-3020, 3060, and SP-664; audit log; matrix of all construction procedures; 8 auditor

qualification files; 64 internal audits; all 1979 through 1983 audits; and ~~the~~ QA Annual Report July 1981-82.

Several former Mercury employees and other site personnel having direct knowledge of the company, ~~were~~ interviewed. The following is a summary of these interviews, reviews and evaluations.

## Interviews and Evaluation of Mercury Management

The Mercury Company was plagued by poor and discontinuous management,

because there were <sup>Six</sup> project superintendents, <sup>Six</sup> product engineers and <sup>Six</sup> QA site supervisors from mid 1978 ~~to~~ mid 1983. Site QA/QC

personnel received ~~poor~~ support from corporate QA management and, as a result, many QC inspectors resigned. Several QC inspectors wrote

letters of resignation describing these poor conditions and were

threatened with immediate dismissal if these letters were not withdrawn.

QA/QC personnel constantly ~~were~~ overridden by cost and schedule concerns

because EBASCO and Mercury management were "in bed together" and ran

"rough ~~X~~ shod" over QC. There was a high turnover among QC inspectors.

EBASCO management was aware of these problems shortly after Mercury

came on site. More than one source stated that LP&L and EBASCO did

not properly control and assure that Mercury QA records were retained

onsite but allowed them to "haul" away Waterford Project records that

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should have remained on site. NRC staff members also found that LP&L <sup>was</sup> ~~were~~ still unsure as to exactly what records were on site and what records should be on site. EBASCO and LP&L management ~~finally~~ became fully aware of serious Mercury problems in 1981 <sup>and</sup> 1982, almost three

years after <sup>they</sup> came on site and after almost 80% of the work <sup>was done</sup> ~~they~~ apparently assumed that it was too late to obtain corrective action or ~~else~~.

<sup>at this time</sup> ~~EBASCO management supplimented mercury management~~ <sup>complete new work</sup> ~~impossible task.~~

### Review and Evaluation of Corporate Annual Report

Mercury Internal Audit No. 1-9-80 (January 8, 1980)-finding No. 1,2

documented that ~~the~~ Mercury management review of the QA program ~~had been~~

~~done~~ since September 1978; ~~(when their program implementation was getting~~

~~underway)~~. The audit log showed this finding to be closed the same date

~~performed 1-9-80~~; however, EBASCO Audit CBB/AEZ-83-2-3 determined that

the audit was not signed off as closed and only one annual review <sup>or</sup>

~~report had been accomplished and this was for the period July 81, 82.~~

The NRC staff found, no additional annual reviews and the one review

referenced was neither ~~an~~ acceptable nor adequate <sup>review referenced</sup>

~~was neither an acceptable nor adequate review of the status and adequacy~~

of the Mercury site QA program. The staff further concluded <sup>d</sup> that this

failure to perform effective QA program reviews has significantly

contributed to all the Mercury conditions identified as adverse to

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Examples of these conditions include

quality, ~~such as~~ failures, malfunctions, deficiencies, deviations, defective material and equipment, and other nonconformances that were not promptly identified and corrected. ~~EBASCO and LP&L management bear direct responsibility for not assuring that a system was implemented to bring~~ such QA program breakdowns ~~to the attention of EBASCO and LP&L management~~ <sup>their</sup> at the appropriate level to ~~insure corrective action~~. Although this <sup>transmission</sup> significant construction deficiency ~~was~~ identified as early as January 1980, EBASCO audits did not identify the same problem until February 28, 1983, ~~however~~ other significant and similar problems <sup>however</sup> were identified in EBASCO Audits NB-79-9-4, NB-80-8-3, and SW-82-6-1, which should have alerted management to these problems as early as September 1979, but not later than June 7, 1982. Not only was this deficiency never specifically reported, but it was never corrected.

### Review and Evaluation of Mercury Internal Audits

Mercury Internal Audit No. 1-11-80 ~~dated~~ January 11, 1980, documented

that <sup>an</sup> internal audit on QAM Sections 10, 11, 14, 15, and 17 <sup>were not</sup> ~~were not~~ <sup>accomplished</sup> ~~done~~ at least once <sup>per year</sup> ~~per year~~ in 1979 <sup>as required</sup> ~~as required~~. Internal Audit

No. 5-11-82 ~~dated~~ May 11, 1982, documented that <sup>QAM</sup> Sections 2, 7, 12, 13, 14, and 15 <sup>were</sup> ~~had not been~~ audited during 1981. <sup>No</sup> ~~No~~ Corrective Action

Request (CAR) was <sup>initiated</sup> ~~initiated~~ as a result of the 1980 audit, but CAR No. 44 was issued May 11, 1982, more than two years after the same finding in Internal Audit No. 1-11-80. ~~(see paragraph 6 below)~~

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The NRC staff, ~~determined that~~ <sup>2.1.1.</sup> Section 5, Procurement, ~~was never audited~~  
~~by Mercury~~ from 1978 through 1983 because, <sup>or</sup> they stated, ~~that they~~ <sup>did not</sup>  
 purchased no materials; however, Mercury Letters WQ-1216 and 1225  
 dated December 15, 1982, and January 4, 1983, discuss Mercury's

issuance of a purchase order to Welders Testing Laboratory in late  
 1978, ~~remaining~~ <sup>in effect</sup> as of January 1983. LP&L acknowledged this

finding and ~~when asked if other services were purchased~~ stated that

calibration services ~~were purchased~~. The NRC staff ~~member~~ reviewed

existing files ~~at Mercury~~ and determined that QAM Sections 5, 12, 17,

and 18 were not audited in 1980. The failure to audit Section 12

"Nonconforming Items and Corrective Action" is significant because

(1) <sup>the apparent failure to take corrective action regarding Mercury</sup> ~~the apparent failure to take corrective action regarding Mercury~~  
 management reviews and internal audits, ~~not performed~~ <sup>not performed</sup> and (2) ~~this same~~ <sup>the same</sup>

Section 12 was not audited in 1981. QAM Sections 5, 14, and 16 were

not audited in 1981. QAM Sections 5, 11, 12, 13, 14, 15, and 16 were

not audited in 1983.

Response letters to audit findings describing corrective action ~~were~~

~~found~~ in the file for calendar year (CY) 1979, ~~but~~ <sup>responses were not</sup> responses were not

found for CY 1980-1983.



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As discussed in paragraph 2 above, this significant construction deficiency ~~is~~ partial QA program breakdown has never specifically been reported, even though the contractor identified the deficiency in January 1980 and EBASCO identified the problem in June 1982. Even more serious, Mercury ~~never~~ <sup>failed to</sup> correct the problem after it was identified by Mercury and EBASCO.

#### 2.4 Review of Auditor Qualification

Although auditor resumes ~~showed~~ <sup>the</sup> adequate qualification, qualification methods were inconsistent ~~as~~ <sup>some</sup> were given written exams, others ~~were given~~ <sup>were given</sup> exams, and in one case, even the oral exam was waived. The following administrative or procedural deficiencies ~~of minor nature~~ <sup>which are</sup> but they point out poor record keeping; ~~and lack of procedural adherence~~ <sup>and lack of procedural adherence</sup>.

1. a. ~~(Exhibit)~~ <sup>See exhibit</sup> performed as lead auditor on December 19, 1978, but auditor qualification procedure was not in place until June 20, 1979. Records indicate he was <sup>not</sup> qualified as lead auditor until January 22, 1979, a month after he performed the audit. He was given 2 points under "Management Awarded Points" without any ~~justification~~ <sup>justification</sup>. His eye examination was dated January 16, 1979, well after his first audit.

*2nd audit*  
(2) X *Ex 6.7c* [redacted] *he* did not have documentation *in file* to show that he had received orientation *(see 5.1)* to provide a working knowledge and understanding of ANSI N45.2 and N45.2.12; 10 CFR 50, Appendix B; *Code Section* ASME *III*, NCA 3000 and 4000; Mercury QA Manual; and Mercury Audit Procedure QCP-3020.

*2nd audit*  
(3) X *Ex 6.7c* [redacted] *an* did not have *receive* eye examination *the* documentation *in file* for 1981.

*2nd audit*  
(4) X *Ex 6.7c* [redacted] *as required by* was not examined *in accordance with* paragraph 6.6 of *QC-3060* *QC-3060*. *There was no eye exam for 1980 and did not receive the* *specified training.*

*The*  
(5) X *QC-3060* Audit Participation Log was not available in the QA record files *per* as required *by* paragraph 7.4 of *QC-3060*.

### Review and Evaluation of Mercury Audits of Implementing Procedures

The NRC Staff review of Mercury QA, *had not* construction, and special process procedures showed that Mercury *never* audited the following procedures *life of the* during the project: MCP-2140, 2170, 2175; SP-650, 651, 652, 653, 654, 655, 656, 657, 658, 661, 662, 663, 668, 670, 672; WPS-B, P, G; BP-1; and WPS-W3-4. EBASCO Audit No. SW-82-6-1 *dated* (June 7, 1982) *Item No. 7a* documented *the* finding that Mercury implementing procedures had not been audited.

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The NRC staff finding that many implementing procedures were not audited is particularly significant since it makes ~~it~~ <sup>it</sup> apparent that effective corrective action <sup>to many of the deficiencies identified in the audit</sup> was not taken. ~~It is also important to note that many~~ documentation and hardware deficiencies ~~that were identified~~ <sup>that were identified</sup> were related to the procedures ~~which were~~ <sup>that were</sup> not audited <sup>by the staff</sup>.

Mercury Procedure Nos. QCP-3020, 3050, 3060, 3110.1, 3110.4, 3110.5, 3110.6; SP-659, 664, 665, 666, and 667 were audited only one year each during the period 1979-1983. These implementing procedures were for ~~controlling~~ <sup>controlling</sup> auditing, qualification of inspection/test and audit personnel, pipe and tubing inspection, welding inspection, installed equipment inspection, material receiving, nonconformance and corrective action, installation of seismic expansion anchors, and control of "as built" information. Special or supplemental audits should have been performed in addition to annual audits of these areas because of ~~repetition of~~ <sup>repetition of</sup> nonconformances, deficiencies, and audit findings ~~in these areas~~.

The NRC staff considers this failure to audit implementing procedures a breakdown in the Mercury QA program. ~~This~~ <sup>This</sup> should have been identified in the corrective action response to the ~~previously identified NRC civil~~ <sup>previously identified NRC civil</sup> penalty ~~discussed above~~ <sup>discussed above</sup> and represents inadequate corrective action.

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## Correct Action Report

F.6. ~~Review and~~ Evaluation of CARs

The NRC staff reviewed 143 CARs issued by Mercury Company from December 19, 1978 through August 9, 1983. <sup>including</sup> All CARs relating to audits <sup>by the</sup> were evaluated. ~~The CAR log was reviewed for audit finding trends and it was determined~~ that EBASCO should have been aware of adverse trends concerning audits as early as December 19, 1978, but certainly by CAR No. 018, initiated August 6, 1979. Other CARs (046-059) <sup>concerning audits</sup> were issued May 24, 1982, and CAR 089 concerning audits. EBASCO QA management and auditors should have reviewed <sup>the CARs</sup> ~~this log~~ <sup>or the CARs</sup> recognized the trends, and advised LP&L management. Other trends which should have been recognized and investigated <sup>by EBASCO</sup> are as follows: (1) CARs 019, 024, 025, 026, 028, 033 issued between March 1980 and April 1982 identified red line "as built" drawing control and installation problems; (2) CARs 019, 020, 021, 022, 024, 025, 026, and 030 issued <sup>against</sup> to one construction supervisor ~~between the same dates identified trends~~ that craft personnel were not following procedures; and (3) CARs 020, 027, 034, 061, 069, 074, and 088 <sup>issued</sup> ~~to~~ QC and craft, between March 1980 and July 30, 1982, identified failure to inspect welds because ~~of~~ <sup>due to</sup> craft ignoring hold points and QC failure to inspect weld joint fit-ups. These trends are only examples ~~as there were~~ <sup>other</sup> adverse conditions which were identified early, but effective <sup>that</sup> corrective action was not <sup>taken</sup> assured by the ~~contractor~~ <sup>Mercury</sup> or LP&L QA program.

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Review of Mercury Auditing, Nonconformance and Corrective ActionProcedures

*the only time this was done was in 1974.*

*2+\** Auditing ~~General~~ audits of vendor ~~performed~~ services, such as ~~was~~ *times*  
~~service rendered~~ by Welder's Testing Laboratory of Metairie, *La. where*

not described in QAM Section 15.0 or QCP-2020. The QAM did not

incorporate the requirements of ANSI N45.2.12 Draft 3 Rev. 4, ~~dated~~

(February 22, 1974), ~~into the QAM~~ followup action when CAR

is not issued and references to other applicable standards, as

specified in paragraph 1.5 "Referenced Documents." This document did

not require a pre-audit conference, ~~while~~ the ANSI standard stated

that a conference "shall be conducted."

*2\** Nonconformances and Corrective Action: QAM Section 12 and SPP-664,

Revisions 4, ~~stated, in part,~~ "When the suspected nonconforming

material, items, and services are determined by the QA Manager or

his designee to be nonconforming, a QC Nonconformance Report -

(Exhibit No. 2) is generated and a nonconformance number shall be

taken from the Nonconformance Log maintained by QA (Exhibit No. 4)

and shall be indicated on the Nonconformance Report. The NRC Staff

determined that draft Nonconformance Reports (NCRs) submitted by any

individual or department, the QA manager could reject the draft NCR

and this would be acceptable; however, it was found that draft NCRs

were not in the QA records. Therefore, the disposition and or

justification for rejection was not auditable because the draft NCRs



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were destroyed. The NRC staff interviewed former Mercury ~~personnel~~ and other site personnel who had direct knowledge of the NCR system. They acknowledged that such a system may have impeded project personnel <sup>from</sup> processing NCRs. An LP&L QA engineer stated that LP&L had addressed this problem when Mercury management was supplemented <sup>by EDC</sup> in 1982. Mercury personnel were <sup>then</sup> encouraged to write NCRs and as a result the number increased from several hundred to more than 3000. This happened <sup>when</sup> ~~at~~ about 80% completion of the Mercury <sup>work</sup> ~~job~~. However, the NRC staff commented that this would not necessarily solve the problem of failure to process or document rejection of draft NCR's ~~or~~ that were submitted by personnel who left the site prior to ~~this~~ <sup>the</sup> action.

Review of EBASCO Audits and Corrective Action - The NRC staff ~~reviewed~~ <sup>the</sup> EBASCO audits of all QA records, ~~processing, review and retention by~~ EBASCO Task Force Account, QA Records Department, QA Records HVAC, Tompkins-Beckwith, B&B Company, GEO Testing, and EBASCO Service, Inc. <sup>NRCST-1</sup> Review of these 27 audits included review of audit findings and responses for <sup>the</sup> audits which contained findings. All 1982 audits of Fishbach Moore (19) <sup>EBASCO</sup> audits, NISCO (20), and Tompkins-Beckwith (23) were reviewed for areas audited, findings, and responses in file. Eight EBASCO auditor qualification files were <sup>not</sup> reviewed. Insert #2

(21 ± 1)

The purpose of this census was to determine if  
there were any identified differences in QA  
round picking turnovers. None were found.

(21 ± 1)

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The NRC staff ~~reviewed~~ <sup>reviewed</sup> ~~the~~ <sup>the</sup> ~~EBASCO~~ <sup>EBASCO</sup> audits of the Mercury Company (51) performed during ~~the~~ <sup>the</sup> ~~1978~~ <sup>1978</sup> ~~1982~~ <sup>1982</sup> were reviewed and evaluated to determine if breakdowns in the QA program between Mercury and EBASCO existed. The following is a summary of that ~~review~~ <sup>review</sup>.

### 1. Management Breakdown

~~As a result of the~~

~~breakdown between EBASCO and Mercury management, including~~  
~~QA, was described above under paragraph 1 of the Mercury~~  
~~review. The resultant breakdown caused LP&L and EBASCO to~~  
 supplement Mercury management with EBASCO management to  
 complete the project.

### 2. Audit Program Breakdown

The EBASCO audit and corrective action systems ~~interface broke down~~  
 between EBASCO, in that EBASCO audits NB-79-9-4, NB-80-8-3, and  
 NB-81-5-1, performed during 1979, 1980, and 1981, stated that  
 Mercury audited each section of the QA manual, despite the fact  
 that the Mercury CAR Log and two or more audits stated that  
 internal audits were not conducted annually on each section of  
 the Mercury QA Manual. EBASCO Audit SW-82-6-1 dated June 7,  
 1982, finally identified the Mercury's failure to audit their QA  
 program i.e., internal and management audits (See previous  
 discussions under paragraphs 2, 3, 4, and 5 above described  
 under "Review of Mercury Audits and Corrective Action."

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Nonconformance and Corrective Action System Breakdown

~~Paragraph 6 of the above Mercury Review document~~ <sup>in</sup> a breakdown in the corrective action system between Mercury and EBASCO management <sup>was</sup> evidenced the inability of either Company to obtain corrective action. Both companies apparently failed to review, recognize, or take action on trends which should have been apparent shortly after Mercury implemented their site QA program. It also appears that the Mercury nonconformance system impeded the freedom to initiate NCRs which could have been ~~tended~~ and upgraded to CARs as a result of EBASCO management involvement; therefore, ~~this appears to be a QA breakdown between the two companies~~

LP&L Audits and Corrective Actions

~~Review and Evaluation of LP&L Responsibility and Action~~ The NRC staff reviewed the LP&L Audit Program requirements, procedures, audits (internal and management), and interviewed corporate ~~and~~ site QA manager and QA engineers involved with the audit program. <sup>This review included 17</sup> ~~fourteen~~ management and 16 site audits of EBASCO performed by LP&L were reviewed, <sup>45</sup> ~~forty five~~ LP&L site surveillance reports were reviewed, <sup>and</sup> ~~the~~ LP&L site audit schedule <sup>from</sup> ~~for~~ 1979 through 1984 ~~was reviewed~~. Special emphasis was placed on LP&L responsibility for management of the overall audit program. Since this is a primary and important function,

~~the QA program~~  
 of LP&L concerning participation in the project, since they rely heavily on EBASCO for design, construction, procurement, quality assurance, and other functions. ~~It~~ <sup>LP&L</sup> was extremely important for ~~them~~ to review and assess the adequacy of the QA program, as required by 10 CFR 50, Appendix B, Criterion II, and to establish and implement ~~an~~ <sup>a</sup> comprehensive system of planned and periodic audits to verify ~~compliance~~ <sup>LP&L</sup> with all aspects of the ~~quality assurance~~ <sup>that</sup> program, and to determine the effectiveness <sup>NRC</sup> of the program. The following ~~is a summary~~ <sup>Summarizes this review</sup>:

Review of Site Audits Scheduled Versus Audits Performed

The NRC staff reviewed <sup>LP&L</sup> audits scheduled and performed ~~from then to~~ during 1979, ~~1980, 1981, 1982, 1983, and 1984.~~ There were 4 auditors in 1979 who were scheduling audits; however, the number of full time auditors scheduling audits appears to decline to 3 during much of 1980. The number of site auditors appears to rise back to 4 in 1981 or slightly more in 1982. The number scheduling audits in 1983 appears to be about 4. The ~~actual~~ number of audits performed declined from approximately 80, 60, 53, 91, 42, and ~~too~~ <sup>to 0</sup> during the respective audit years 1979, 1980, 1981, 1982, 1983, and the first few months of 1984.

The following ~~are~~ the monthly audits scheduled versus the audits performed: ~~80 performed of 193 scheduled, 60 of~~

<del>Year</del>	<u>Schedule</u>	<u>Performed</u>
1979	193	80
1980	181	60
1981	179	53
1982	203	91
1983	168	42
<u>total</u>	<u>924</u>	<u>326</u>



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C In analyzing this document, LPS. and Nial  
 1.11) noted in printed version (next #3)

~~101, 53 of 170, 91 of 203, and 42 of 160 for the  
 respective years 1979, through 1983. The justification by LPS  
 for missing audits was unacceptable; for example, NRC  
 inspection performed, unscheduled work activity performed,  
 SUS reviews, etc. This audit system deficiency has  
 existed for many years and was identified in Middle South~~

~~Services (MSS) Audit, E79-6 (AFR E-88) dated  
 (August 27th August 8, 1979), December 8 to  
 8/27/79-8/31/79 and E80-15 (AFR E-122) dated  
 December 16, 1980)~~

~~12/16/80. Corrective action was apparently not taken and  
 it appears that auditors "gave up" MSS Audit Report~~

~~See E81-12 reported the conduct of QA Audits and QA~~

~~Construction site audits satisfactory when only 53 of 178  
 scheduled were performed, and similarly, E82-15 conducted~~

~~(December 6 to December 22, 1982, it  
 12/6/82-12/22/82 considered X normal when 91 of 203 were  
 conducted. The actual number performed versus scheduled~~

~~may be less since these figures include reaudits and  
 may include QA surveillances which are not to be  
 considered an audit per ANSI N45.2.12, paragraph 1.2.2~~

~~"Requirements for Auditing of QA Programs for Nuclear Power  
 Plants." This condition was discussed with the LP&L Site  
 QA Manager, who did not consider any of this to be a problem.  
 It appears that LP&L management has chosen to believe they  
 can delegate all responsibility for their QA program  
 to EBASCO.~~

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missions were taken from scheduled work to attend to  
such non-routine tasks as maintenance of equipment,  
50% repairs and also unscheduled work as well,  
from 1961 to 1981 and from 1981 to 1983.  
In 1983 and from 1981 to 1983.  
The working hours were 20 hours per week to  
meet both patient care and other duties.

During this time, the life staff found that  
the audit system deficiency ~~was~~ was identified  
in 1979 by Middle South District (MSD) in audit  
reports.

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4.  
 B. (B) Review of LP&L Audit of EBASCO QA Program

The NRC staff reviewed LP&L audits of EBASCO site activities performed during 1981, 1983, and 1984. Nine audits were conducted in

1981 ~~and~~ in 1983 ~~and~~ during the first several months of

1984. Since LP&L has chosen to delegate the function of ~~auditing~~ site contractors ~~and~~ design, construction,

procurement and quality assurance functions, the audit of

EBASCO should be comprehensive, and in depth audit of their

~~the~~ ~~entire~~ ~~quality assurance manual and implementing procedures.~~

~~A large percentage of the on site design, procurement,~~

~~construction, and engineering procedures should also be a~~

~~part of the annual audit of the EBASCO QA Program.~~ The 9

~~audits in 1981 and 7 in 1983 do not appear to be~~

~~sufficiently comprehensive to meet the requirements of~~

~~10 CFR 50 Appendix B and LP&L QP 18.3, Revision 3;~~

~~paragraph 5.0, dated February 8, 1978, which states, in~~

~~part, "Site audits shall verify that safety related~~

~~activities associated with LP&L Nuclear Power Plants are~~

~~performed in accordance with applicable regulatory~~

~~requirements, specifications, instructions, procedures,~~

~~and drawings. These audits are necessary to assess the~~

~~effectiveness of the Quality Assurance programs of the~~

~~Architect Engineer, Construction Manager and contractors~~

~~at the construction site."~~

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5. Overall <sup>site</sup> Management of ~~the~~ Audit Programs

The NRC staff reviewed Mercury audits <sup>program</sup> and determined that <sup>it</sup> ~~their program~~ failed to audit some key quality control and construction procedures where deficiencies occurred. It is obvious that audit <sup>ing</sup> of these procedures <sup>during</sup> ~~during the~~ <sup>could</sup> ~~period~~ 1978-1983 would have ~~likely~~ prevented these deficiencies <sup>at</sup> Mercury Company.

~~As a result of developing a matrix of procedures which had~~ <sup>As a result of</sup> ~~or, had not, been audited,~~ <sup>the NRC</sup> recognized several <sup>causes</sup> ~~and effects~~ of documentation and hardware deficiencies at Mercury Company in addition to several significant breakdowns in the Mercury QA program, ~~is~~ <sup>audit</sup>, nonconformance and corrective action system. <sup>NRC staff requested</sup> ~~The LP&L management was~~ <sup>asked</sup> for existing matrices, logs, or other documents which would <sup>show</sup> ~~show~~ all of the contractor procedures which had been audited by LP&L, EBASCO and other site contractors.

The LP&L site QA manager and QA Construction engineer stated that they did not know what procedures had been audited during ~~the~~ construction ~~of the plant~~. In the case of Mercury, the advantage of managements' knowing that Mercury Company had audited the implementation of their procedures and assured proper control of work activity is

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NECA's to  
be reviewed?

obvious. Also in this case, Mercury and EBASCO could not properly apply audit resources unless they <sup>were aware of</sup> know the frequency of audit of the construction and quality control procedures; i.e., one procedure may be over audited to the detriment of a procedure controlling red line drawings or welding. LP&L stated that they <sup>did</sup> have not managed the audit function in this manner, but simply monitored <sup>with</sup> the audit of activities in a broad sense, and <sup>that</sup> there was no requirement to know what procedures were audited.

This Philosophy is contrary to Criterion II of 10 CFR 50, Appendix B which states, in part, "This program shall be documented by written policies, procedures, or instructions and shall be carried out throughout plant life in accordance with those policies, procedures and <sup>at least one of the following is required</sup> instructions." To assure ~~that~~ the NRC maintains that procedures which control work activities <sup>must</sup> ~~must~~ be monitored.

The NRC review of Tompkins-Beckwith, Fishbach <sup>S</sup> and Moore, and NISCO audits revealed that <sup>all</sup> all procedures had ~~not~~ been audited for these companies. Because many of these audits did not appropriately identify the QA manual sections, ~~and~~ procedures, and construction procedures, it became almost impossible to <sup>determine</sup> ~~ascertain~~ what procedure was audited.



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2. Review of LP&L Management Audits of Site QA Program

The NRC staff reviewed these audits to determine if LP&L had regularly reviewed the status and adequacy of the QA program on site. The audits performed at <sup>the</sup> site between 1972 and August 27, 1979<sup>7</sup> were not comprehensive; ~~audits~~ <sup>and to the contrary</sup> were <sup>simple</sup> superficial paper reviews.

Audits after this date were more comprehensive, but still do not appear to be comprehensive enough to cover all elements of the QA Manual and implementing procedures. It

also appears that these audits were strictly limited to LP&L organizations and, therefore, the audit would not extend to EBASCO and their work activities. Under this circumstance it is hard to understand how the success of LP&L site QA can be measured against EBASCO performance.

*the Management Audits conducted by*

1. Review of Management Analysis Company (MAC)

The NRC staff reviewed portions of ~~MAC consultant~~ <sup>MAC</sup> evaluations of LP&L Waterford 3 ~~management made and reported~~ <sup>which were made at</sup> in 1977, 1979, and 1980. The Executive Summary of the 1979 report outlined many problems which "can critically impact the Waterford 3 Project." <sup>in which</sup> Of particular <sup>concern</sup> interest are the following quotes on pages 2, 4, 5, and 8 as follows:

(1) "The long-held policy of Louisiana Power and Light has

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*Single  
substantive*

been to conduct their business related to engineering, construction, and operation of power plants by utilizing a very "lean" in-house organization<sup>(AE)</sup> with almost total reliance on the Architect-Engineer for engineering and construction, and heavy use of consultant and outside service organizations during plant operations. This policy of "lean-ness" and almost total reliance on the ~~AE~~ <sup>AE</sup> is, in MAC's opinion, one of the basic root causes of many of the problems associated with Waterford 3 . . . .

heavy reliance on outside consultant and service organizations during the operation of Waterford 3 will, in MAC's opinion, cause additional problems once the plant is in operation . . . . The designated role of the LP&L site project is currently that of liaison and is not sufficiently involved in the planning, monitoring, and control of site activities . . . . The existing LP&L project and site organizations are lacking in numbers and in commercial nuclear power plant experience necessary to effectively monitor and control the Waterford 3 project . . . . The LP&L Quality Assurance organization has recognized basic fundamental problems related to quality but in some cases has not taken sufficient positive action to have problems resolved. The 1979 MAC Report to LP&L on page 2, paragraph 2 states, in part, "The QA group

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overall is strong . . . but few in number. . . it is MAC's recommendation that additional manpower be obtained. LP&L should monitor, audit and watch all of the critical activities . . . as they are accomplished at the site . . . Additional QA manpower should be applied to ensure contractor QA records are in auditable and buyable order."

The 1980 MAC Report deals mainly with startup and operation; however, the theme of under-experienced and inadequate staffing is a recurring theme and should be evaluated by NRC staff who are responsible for operational startup, testing, etc.

#### NRC Staff Conclusion

In conclusion the NRC staff found considerable evidence indicating there was a significant breakdown in the QA program both at EBASCO and Mercury, and between EBASCO and Mercury, to the point that EBASCO management was <sup>was</sup> ~~supplied~~ to supplement Mercury management. Also a breakdown of the QA program was evidenced in that ~~the~~

LP&L did not thoroughly evaluate, determine all the causes, and identify the entire extent of the QA breakdown at Mercury Company, even after receiving <sup>notification</sup> ~~an NRC~~ civil penalty on December 6, 1982. This represents a failure to adequately evaluate the original Construction Deficiency Report No. 57 and report the full extent of the QA program breakdown, <sup>and</sup> ~~and~~ represents a failure to take

effective corrective action <sup>which</sup> ~~concerning~~ determining the cause of the QA breakdown at the Mercury Company; and

- (2) LP&L did not implement a program to increase <sup>its</sup> LP&L manpower and involvement with the Waterford 3 Project. This failure to implement these MAC recommendations are <sup>one of</sup> the root cause of QA problems experienced in the past and present.

Ex. 5,7

4

10/27/71

on a schedule acceptable to  
the NRC staff

During the last 4 weeks

the staff has been working to develop a schedule  
and a plan to implement a credit program to  
preclude the credit problems identified in this  
audit. The staff has been working to develop a  
schedule that responds to the NRC staff  
concerns expressed in December 1970, and to  
most other references, such as 57, and 61.6.  
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The staff has been working to develop a  
schedule that responds to the NRC staff  
concerns expressed in December 1970, and to  
most other references, such as 57, and 61.6.

LPSC management will have to understand,  
and implement, the program. The staff  
will be working to develop a schedule that  
responds to the NRC staff concerns expressed  
in December 1970, and to most other references,  
such as 57, and 61.6.



1. P.S.I. - all points to be working / ~~at least 1~~  
~~in the 1st and 2nd stages of the 1st and 2nd stages~~  
2. P.S.I. - all points to be working / ~~at least 1~~  
3. P.S.I. - all points to be working / ~~at least 1~~

2. P.S.I. - all points to be working / ~~at least 1~~  
3. P.S.I. - all points to be working / ~~at least 1~~

3. P.S.I. - all points to be working / ~~at least 1~~

Ex. 5, 7a

Actions Required:

Construction is complete and construction of the overall LP&L and contractor audit system is not possible. Audits are a second line defense for inspections that fail to detect deficient hardware and testing of systems, therefore, if these were adequate the plant can be adequate despite the fact that there was a QA breakdown in the audit and corrective. The primary concern relative to audits is to assure that an effective operational audit system is established and implemented.

2. LP&L ~~should~~ <sup>shall reevaluate</sup> factor the above NRC staff findings <sup>the</sup> into responses to the NRC civil penalty and their Construction Deficiency Report No. 57 i.e., review, <sup>re</sup>evaluate, and determine the full extent of the QA breakdown at the Mercury Company and effective corrective action <sup>take</sup> regarding these items.

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3. LP&L should obtain a list of Mercury personnel and contact appropriate personnel to determine if they still have copies of draft NCR which were not processed and they consider to be significant deficiencies which they think have not been identified and corrected.

Main Point

4. ~~LP&L management should assure that they have an effective system implemented to regularly assess the status and adequacy of the QA Program which should include written policy, procedures, and adequate manpower to implement such a system. LP&L management should assure NRC staff that they have such a system demonstrate full support of such a program.~~

#### References

1. LP&L PSAR Quality Assurance requirements.
2. LP&L QR 18.0, Revision 2, 10-10-78, Audits.
3. LP&L QP 18.3, Revision 3, 2-8-78, Conduct of Site Audits.
4. LP&L QP 18.4, Revision 2, 2-17-83, Schedule of Site Audits.
5. LP&L QR 2.0, Revision 2, 10-10-78, Table 2-1 LP&L Commitments  
(Includes Regulatory Guides and ANSI standards)

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6. EBASCO QAS-1, Revision 4, 6-30-82, Planning QA Activities.
7. EBASCO QAS-2, Revision 4, 6-30-82, General Audit Procedure
8. EBASCO Procedure QAS-3, Revision 4, 6-30-82, Processing Audit Reports
9. EBASCO QAI-25, Revision 0, 8-22-83, Instruction for Auditing
10. EBASCO QAI-7, Revision 2, 2-21-84, Instruction for Surveillance/  
Corrective Action.
11. Mercury QA Manual Sections 1-18, Revisions and Dates Various
12. Fischbach and Moore QA Manual Sections 1, 2, 3, 10, 15, 16, 17, and  
18, various Revisions 4-1-81.
13. Fishbach and Moore QAP-103-W3, Revision 0, 6-10-77, Processing and  
Controlling Nonconformances.
14. Fischbach and Moore QAP-106-W3, Revision 0, 6-10-77, Auditing.
15. NISCO QA Manual Section 15, Revision C, 6-6-78, Audits.

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16. Tompkins-Beckwith QA Manual Section V, 8-1-81, Audits

1. The following information was obtained from the audit of the Tompkins-Beckwith QA Manual Section V, 8-1-81, Audits.

Statement Prepared By: \_\_\_\_\_

~~Name~~  
S. Phillips

\_\_\_\_\_  
Date

Reviewed By: \_\_\_\_\_

\_\_\_\_\_  
Team Leader\_\_\_\_\_  
Date

Reviewed By: \_\_\_\_\_

\_\_\_\_\_  
Site Team Leader(s)\_\_\_\_\_  
Date

Approved By: \_\_\_\_\_

\_\_\_\_\_  
Task Management\_\_\_\_\_  
Date



ORIGINAL

EXHIBIT 2

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

COMMISSION MEETING

DOCKET NO:

LOCATION:

WASHINGTON, D. C.

PAGES: 1-110

DATE:

FRIDAY, MARCH 15, 1985

ACE-FEDERAL REPORTERS, INC.

Official Reporters  
444 North Capitol Street  
Washington, D.C. 20001  
(202) 347-3700

NATIONWIDE COVERAGE

1 All those in favor indicate by saying aye.

2 COMMISSIONER ROBERTS: Aye.

3 COMMISSIONER ZECH: Aye.

4 COMMISSIONER BERNTHAL: Aye.

5 CHAIRMAN PALLADINO: Aye.

6 Opposed?

7 COMMISSIONER ASSELSTINE: No.

8 CHAIRMAN PALLADINO: All right. Now, does any  
9 Commissioner -- well, let me announce that the vote means  
10 that we are authorizing the staff to allow this plant to  
11 proceed towards full power based on the Commission's  
12 deliberation, and we will issue the draft OGC order, the  
13 target being to issue it yet today, if we possibly can.

14 COMMISSIONER ROBERTS: I was going to ask, will it  
15 issue today?

16 CHAIRMAN PALLADINO: That would be my intent.

17 MR. DENTON: Mr. Chairman, I think this is something --  
18 my understanding is, we need to see that before we proceed  
19 with the actual issuance of the license.

20 MR. MALSCH: It should be ready for signature within  
21 a few minutes.

22 CHAIRMAN PALLADINO: All right.

23 Now, do any Commissioners have additional comments  
24 they would like to make?

25 COMMISSIONER ASSELSTINE: I have just a few. I

1 want to say at the outset that this is a close case for me,  
2 and I think probably the closest one since I have been on  
3 the Commission.

4 On the positive side I see a number of things.  
5 First, the utility has made some management changes over the  
6 past few years, and I think not the least of those was a  
7 new chief executive officer and a new plant manager.

8 Another positive sign is that the CEO of this  
9 company is very actively involved, and I know that the staff  
10 has been strongly supportive of Mr. Cain's contributions.

11 Third, I would say that performance seems to be  
12 improving over the past couple of years under the new  
13 management, and I certainly hope that that trend continues.

14 And finally, the start-up testing program seems  
15 to have gone fairly well for this plant.

16 But I also see some things on the negative side.  
17 First, this plant has had its share of difficulties in  
18 construction. Twenty-three items identified by the staff  
19 in 1984 were significant problem areas in my view. And my  
20 sense is that the utility did not always respond to those  
21 problems in as vigorous and forthright a manner as we would  
22 have liked.

23 Second, the seismic adequacy of the basemat to me  
24 is still open to question, and I would like to see some  
25 further analysis which would address at least some of the

1 concerns identified by Dr. Chen and Dr. Ma. And I just add  
2 at this point that I for one very much appreciate their  
3 efforts in bringing these matters to our attention. It is a  
4 difficult thing for a member of the staff to do, and I think  
5 they are to be commended for their efforts in making their  
6 views known.

7 The third item on the negative side is that there  
8 are a number of integrity issues that are still being  
9 investigated by our Office of Investigations, and at least  
10 one of these items is significant in my mind.

11 Fourth. With respect to senior managers of the  
12 company, there is evidence that the company has not always  
13 been as careful, forthright, and candid in its statements to  
14 the NRC as is necessary.

15 And fifth, I am uncomfortable with the fact that  
16 the utility is using for the operation of the plant two  
17 former operators at TMI-2 who are now under investigation  
18 by NRC for their possible role in the falsification of leak  
19 rate tests at TMI-2 prior to the accident.

20 I believe that there is sufficient basis now for  
21 barring them from operation of the Waterford-3 plant until  
22 this matter is resolved. And their continued duty as  
23 licensed operators at Waterford raises questions in my mind  
24 about the safe operation of the plant.

25 None of these items individually is sufficient to



1 cause me to vote against the license. But I have to say that  
2 when I look at them in the aggregate, I reached the conclusion  
3 that there is not now a sufficient basis for me to conclude  
4 that this utility is ready to receive a full power operating  
5 license.

6 For that reason, I am voting "no." Thank you.

7 CHAIRMAN PALLADINO: Well, let me make a statement.  
8 I fully support the judgment that Waterford Unit 3 can be  
9 operated at power levels up to full power with reasonable  
10 assurance that the public health and safety and common defense  
11 and security are adequately protected.

12 On the matter regarding former TMO-2 operators at  
13 Waterford which Commissioner Asselstine has brought up, I  
14 would have preferred that the two former TMI-2 operators at  
15 Waterford be separated from actual operation of the plant  
16 pending the outcome of the Hartman hearing. Nevertheless,  
17 I think this plant can go forward at this time.

18 Any other comments anyone wishes to make?

19 COMMISSIONER ZECH: I would just like to say, I  
20 think the plant can be operated safely. I think we have  
21 reviewed it carefully. I think the staff has made a very  
22 diligent and forthright effort to look at all sides of all  
23 the issues, and I think they have presented themselves to us,  
24 as has everyone else, in a very candid manner.

25 I am satisfied that the plant can be operated safely



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Appeal Board

DOCKETED  
USNRC

In the Matter of )  
 )  
LOUISIANA POWER & LIGHT COMPANY) )  
 )  
(Waterford Steam Electric )  
Station, Unit 3) )  
 )

'85 MAY -7 AIO:19  
Docket No. 50-382 OL

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

I hereby certify that a copy of the foregoing Joint Inter-  
venors' Response to NRC Staff and LP&L Responses to ALAB-801  
have been served on the following persons this 6th day of  
May, 1985, by mailing a copy, first class, postage prepaid,  
unless otherwise noted:

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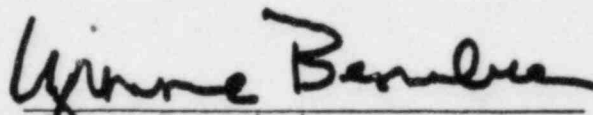
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