SUMMARY OF FINDINGS

I. Enforcement Action

A. Items of Noncompliance

1. Violations

None

2. Infractions

a. Lack of Provision for Inspection Acceptance or Rejection

Contrary to 10 CFR 50, Appendix B, Criterion V, the Ebasco QC inspection form concerning cement approval (QC-24, 7/16/75) does not provide indications of inspection acceptance or rejection as required by the referenced requirement of Procedure No. ASP-III-11, "Inspection." This matter was identified by the licensee in an LP&L audit report No. W3S.75-60. (DETAILS, paragraph 7.b)

b. Aggregate Sieve Analysis Nonconformance Traceability

Contrary to 10 CFR 50, Appendix B, Criterion XV, disposition concerning corrective action could not be made on several aggregate sieve analyses which did not meet specifications. (DETAILS, paragraph 7.b)

c. Specification Revisions - Nonconformance with QA Program Requirements

Contrary to 10 CFR 50, Appendix B, Criterion V, Revisions to the Ebasco Specification, LOU 1564.472, "Concrete Masonry Seismic Class I," were made by memorandum rather than by the prescribed requirements as specified in Ebasco Procedure ASP-1-4, "Design Control." (DETAILS, paragraph 10)

II. Licensee Action on Previously Identified Enforcement Matters

1. Violations

None

2. Infractions

75-05/2.c Evaluation of Fine Aggregate Test Results

Trial mixing of design mixes has been satisfactorily completed in accordance with established procedures, utilizing properly

(continued)

tested and accepted ingredients. Verification was by successful compressive strength testing of 28 day cylinders. This item is closed. (DETAILS, paragraph 4)

III. New Unresolved Items

1. J. A. Jones Procedure W-SITP-7 Slump Requirements

Slump requirements stated in J. A. Jones Procedure W-SITP-7, "Inspection of Concrete Placing, Curing, Finishing and Repair," were not consistent with Ebasco Specification LOU 1564.472, "Concrete Masonry." (DETAILS, paragraph 6)

2. QC Inspector Training

It appears that QC inspector training requirements, prescribed by Ebasco Procedure ASP-I-3, "Indoctrination and Training," are not being completed in a timely manner. (DETAILS, paragraph 11)

IV. Status of Previously Identified Unresolved Items

75-04/3 Ebasco Procedure QC-2 - Waterford Steam Electric Station (WSES) PSAR Inconsistency

LP&L has initiated action to resolve the inconsistency between Figure QC-2.3 of Procedure QC-2 and the WSES PSAR. This item will remain open pending resolution of the inconsistency. (DETAILS, paragraph 5.a)

75-07/1 Ebasco NQAPM - Procedure ASP-I-1 Inconsistency

Ebasco has issued a procedure revision to clarify this inconsistency. This item is closed. (DETAILS, paragraph 5.b)

75-07/2 Ebasco NQAPM - Procedure ASP-III-2 Inconsistency

Ebasco has not completed action to clarify this inconsistency. This item remains open. (DETAILS, paragraph 5.c)

75-07/3 Cement Temperature

Ebasco has revised procedure QCIP-4 relative to cement temperature. This item is closed. (DETAILS, paragraph 5.d)

V. Design Changes

None

VI. Unusual Occurrences

None

VII. Other Significant Findings

None

VIII. Management Interview

A management interview was held on December 5, 1975 at the conclusion of the inspection to discuss the inspection findings. The following individuals were in attendance:

Louisiana Power & Light Company

A. E. Henderson, Jr., QA Manager
T. F. Gerrets, Project QA Engineer
O. P. Pipkins, QA Engineer
B. M. Toups, QA Engineer
B. P. Brown, QA Engineer
P. V. Prasankumar, Engineer

Ebasco Services Incorporated

J. O. Booth, Project Superintendent
B. D. Fowler, Senior Resident Engineer
R. A. Hartnett, Acting QA Site Supervisor
I. Hussain, QA Engineer
W. G. Griggs, Senior QC Supervisor
J. Gutierrez, QA Engineer

J. A. Jones Construction Company

G. A. Greathouse, QA Manager

(continued)

DETAILS

1. Principal Persons Contacted

Louisiana Power & Light Company (LP&L)

A. E. Henderson, Jr., QA Manager
T. F. Gerrets, Project QA Manager
O. P. Pipkins, QA Engineer
B. P. Brown, QA Engineer

Ebasco Services Incorporated (Ebasco)

R. A. Hartnett, Acting QA Site Supervisor
I. Hussain, QA Engineer
L. Mauerman, QC Training Supervisor
B. D. Fowler, Senior Rresident Engineer
R. W. Zaist, Office Resident Engineer

J. A. Jones Construction Company

G. A. Greathouse, QA Manager

2. Scope of Inspection

The purpose of the inspection was to observe work activities and review quality records related to placement No. 499S01-6 of safety related structural concrete for the common foundation mat. The inspectors reviewed site quality assurance and quality control procedures and records applicable to foundations and structural concrete, observed construction activities in progress and examined responses to previously identified noncompliance and unresolved items.

3. Status of the Project

Design engineering was 90.7% complete and procurement was 57.2% complete as of October 31, 1975. Construction was 2.40% complete as of December 2, 1975. The first placement of structural concrete for the common foundation mat was completed December 3, 1975.

The pressurizer was received at the WSES 3 site on November 10, 1975. The first of two steam generators was placed in temporary storage at a barge site in Houma, Louisiana on November 25, 1975.

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4. Licensee Action on Previously Identified Enforcement Matters

75-05/2.c Evaluation on Fine Aggregate Test Results

Review of records and discussion with responsible personnel revealed that trial mixes for design mix concrete were successfully completed for design mix 14A.6 and two variations (14A.9 and 14A.10) on November 2, 1975. Subsequently two additional variations of mix 14A.6 were mixed.

Compression test break data was available for mixes 14A.6, 14A.9 and 14A.10 at 1, 3, 7 and 28 days. Compressive strength for cylinders at 28 days broke well above the required 4600 psi (4000 psi + 15%) specification. Compressive strengths for 28 day tests were within allowable variation.

Review of trial mix data, compressive strength test records and test records of trial mix ingredients did not reveal any substantive deficiencies.

This item is considered closed.

5. Status of Previously Reported Unresolved Items

a. 75-04/3 Ebasco Procedure QC-2 - Waterford Steam Electric Station (WSES) PSAR Inconsistency

LP&L has initiated action to resolve the inconsistency between Ebasco procedure QC-2 and the WSES PSAR which resulted from a change in the Ebasco site organization. A proposed resolution and request for concurrence has been sent to the Division of Reactor Licensing. This item remains open.

b. 75-07/1 Ebasco NQAPM - Procedure ASP-I-1 Inconsistency

Ebasco proceudre No. ASP-III-1 "Preparation of Site Procedure" Issue D, November 14, 1975, contains a statement to the effect that the scope of the site prepared procedures does not cover the responsibilities of the QA Engineering Department and that mention of the QA Department is only to indicate interfaces. This response satisfies the inspector's previous concern over implied control of the QA Department by the Senior QC Supervisor. This item is closed.

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c. 75-07/2 Ebasco NQAPM - Procedure ASP-III-2 Inconsistency

Ebasco site QA has submitted to the Ebasco Nuclear Program Committee a request for resolution of this inconsistency relative to issuance and control of procedures. This item remains open.

d. 75-07/3 Cement Temperature

QCIP-4 "Control of Concrete Materials and Mixes" Issue D, November 29, 1975, has been revised to correct a discrepancy from PSAR requirements for cement temperature. The procedure now states that cement exceeding 140°F shall not be used. This item is closed.

6. Review of J. A. Jones Construction Company (J. A. JONES) QA Implementing Procedures

The inspector reviewed J. A. Jones procedures relative to structural concrete activities for safety related structural concrete foundations. The following procedures were examined:

W-SITP-4 "Reinforcing Steel-Handling, Storage, Installing, Cadwelding and Modification Inspection" Rev. 4, 11/11/75

W-SITP-5 "Embedded Items-Handling, Storage and Installation Inspection" Rev. 1, 11/26/75

W-SITP-7 "Inspection of Concrete Placing, Curing, Finishing and Repair" Rev. 0, 11/24/75

W-SITP-8 "Waterstop Inspection" Rev. 2, 11/13/75

It was found that slump values stated in procedure W-SITP-7 were not consistent with values stated in Ebasco Specification LOU 1564.472. Procedure W-SITP-7 indicates maximum and minimum slumps to be 4 inches and 2 inches respectively whereas Specification LOU 1564.472 requires that for reinforced foundation walls and footings the 10 batch average shall be a maximum of 4 inches and a minimum of 3 inches and for a single batch the maximum shall be 5 inches and the minimum 2 inches. This inconsistency was identified by the inspector as an unresolved item.

7. Concrete Batch Plant

Concrete batch plant activities were inspected during and subsequent to batching operations of concrete for placement 499S01-6 of the foundation (common) mat. The placement required approximately 2000 cubic yards of 4000 psi concrete. Scope of the inspection involved review of records and observation of work.

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Reference documents utilized which contain control requirements and acceptance criteria are as follows:

ACI Standard 614, "Recommended Practice for Measuring, Mixing and Placing Concrete"

Ebasco Specification LOU 1564.472, "Concrete Masonry", Rev. 4, 1/3/75

Ebasco Memo, "Concrete Design Mix", 11/24/75, R. F. Vine/A. H. Wern to J. O. Booth

Procedure No. QCIP-4, "Control of Concrete Material and Mixes", Rev. C, 9/8/75

Procedure No. QCIP-5, "Control of Concrete Mixing and Transporting", Rev. B, 9/9/75

a. Batch Plant Operations

Automatic batching operations were observed and records resulting from batching activities were reviewed. The design mix specified for the placement was 14A6 (4000 psi) which was coded "14" on the batch tickets.

Concrete ingredients were weighed and added to the stationary mixing drum in proportions to achieve a 9 cubic yard batch. Shrink mix time was observed to be 90 seconds after all ingredients were added. Mixing after dumping to the mixer/truck was observed to be thirty revolutions.

Batch tickets were selectively examined. Errors in programming the automatic batching equipment were satisfactorily corrected by overriding automatic feature and batching manually. The batching ticket in the case observed was handwritten.

Records revealed that scale calibration was timely and repeatability accuracy was within allowable limits. Records of equipment tests and inspections did not reveal any discrepancies.

Ebasco QC surveillance of batching activities was made by two inspectors, one was assigned to the batch plant operations and one to the staging area. Review of the individuals' training folders indicated that the inspectors had received satisfactory training for their assignments.

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b. Materials Control

Inspection of the storage areas and facilities for concrete ingredients did not reveal any areas of concern. Concrete block partitions are used to separate aggregate stockpiles. Sufficient live storage of 1" and ½" coarse aggregate and sand were on hand for the placement. Stockpiles are numbered and "use" stockpiles are identified by green flags. Stockpiles were formed with short slopes to preclude segregation.

Cement is stored in closed weather-tight tanks. The cement is handled in bulk and containers are so constructed that there is no dead storage.

Examination of material inspection and storage records revealed a deficiency in the area of the aggregate sieve analyses. It was observed that the percent of aggregate passing specific sieve sizes did not meet required specifications. It was apparent from the inspection record form (QC-18) that the discrepancy had been noted, but disposition of the aggregate was not traceable from the analysis report nor was it apparent that a disposition had been made. The licensee was informed that the above would appear as an item of noncompliance.

During discussion of the above infraction, the Project QA Engineer informed the inspector that an audit (Rpt. No. W3S 75-60) of the Ebasco procedure No. ASP-III-11, "Inspection", by LP&L resulted in an infraction regarding failure of the inspection form concerning cement approval in that it did not provide indications of inspection acceptance or rejection as follows:

> "The Ebasco QC inspection form concerning cement approval (QC-24, 7/16/75) does not provide indications of inspection acceptance or rejection as required by the referenced requirement of ASP-III-11, paragraph 6.4.1"

The Project QA Engineer indicated that required resolution was for Ebasco to examine all forms of this type and provide necessary revision to correct the problem.

The IE inspector informed the Project QA Engineer that the item would be classified as an item of noncompliance identified by the licensee.

c. Audits of Batch Plant Activities

Audits of batch plant activities including material control were examined. Review of all audits by LP&L and Ebasco in this area beginning in June, 1975 to the last current audit did not reveal any outstanding deficiencies in the audit program. However, resolution of deficiencies identified by the audits will be examined during subsequent IE inspections.

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8. Rebar Splicing

The inspector observed rebar splicing activities in progress; however, cadweld splices for placement No. 6 of the common mat had been completed prior to this inspection. Records of completed work were examined and included the following documents:

Form QCIP-9-1, "Cadweld Operator's Qualification Test Record"

Form QC-15, "Report of Tensile Tests-Cadweld Splices"

Form W-SITP-4.1, "Daily Cadweld Inspection Report"

Form W-SITP-4.2, "Weekly Cadweld or Rebar Test Report"

Cadweld location maps for placement No. 6

Within the scope of the inspection no items of noncompliance were identified.

9. Concrete Curing

Concrete placement was completed on December 3, 1975, and curing began at 4:20 p.m. Curing was to be accomplished by keeping exposed surfaces wet for 7 days by ponding on top and by spray on vertical surfaces when forms are removed. The inspector observed curing activities in progress but was unable to perform a record review as the curing process was still incomplete at the termination of the inspection. Curing records will be reviewed during the next inspection.

10. Specification Revisions-Nonconformance with QA Program Requirements

During the review of the Ebasco "Concrete Test Record", Form No. QCIP-7-2, which reflect the accumulated QC test data taken during concrete placement No. 6 of the common mat, it was observed that actual concrete slumps taken during the concrete placement were below minimums specified in the Ebasco specification No. LOU 1564.472, "Concrete Masonry Seismic Class I", Section 10.9 Consistency and Slump, Revision R5, dated 3/11/75.

The specification, Section 10.9, provides a tabulation giving a range of slumps which shall be used for various types of construction. The table indicates that for reinforced foundation walls and footings, the 10 batch slump average, shall be a maximum of 4 inches and a minimum of 3 inches, and for a single batch, the slump maximum shall be 5 inches and the minimum of 2 inches slump.

The Ebasco Form QCIP-7-2 contains numerous recorded slumps of 1½" to 1 3/4" and 10 batch slump averages below 3 inches.

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In discussing this matter with the licensee representatives, the inspector was informed that the concrete slump requirements were maintained during placement in accordance with the approved design mix No. 14A6 which specifies a 1 inch to 5 inch slump requirement. The design mix and the change in slump was initiated by memorandum issued by the cognizant Ebasco engineer dated November 24, 1975, which revised the specification requirements. It was pointed out by the inspector that the manner in which the changes to the specification were made is contrary to the applicable regulatory requirements. In addition, the specification change was not conducted in accordance with the Ebasco procedure ASP-1-4, "Design Control".

This matter is considered an item of noncompliance: contrary to 10 CFR 50, Appendix B, Criterion V; revisions to the Ebasco specification LOU 1564.472, "Concrete Masonry Seismic Class I", were made by memorandum rather than by the prescribed requirements as specified in Ebasco procedure ASP-1-4, "Design Control".

11. QC Inspector Training

During the IE inspector's review of the qualification records of inspection personnel utilized by Ebasco in the QC inspection functions during concrete placement No. 6 of the common mat, it was observed by the IE inspector that at least two Ebasco QC inspectors had not completed all requirements of the Ebasco indoctrination and training program described in Ebasco procedure ASP-1-3, "Indoctrination and Training", issue B/9/2/75. It appears that although the QC inspectors conducting concrete placement inspection functions were properly certified, the requirements prescribed in procedure ASP-1-3, Section 6.1, appear to indicate that the Ebasco indoctrination and training developed for each inspector should be completed prior to the assignment of the individual to a QC inspection function. In discussing this matter with the cognizant quality control training supervisor, he stated that although a specific time factor is not prescribed in the procedure, a concerted effort will be made to assure timely training for all site QC inspectors. This matter will be reviewed during a subsequent IE site inspection.

cc: LWH 2/3/76

LP&L SITE CA

	Action	Info
[redacted]		
[redacted]		
OPP		

LOUISIANA POWER & LIGHT / MIDDLE SOUTH UTILITIES SYSTEM

142 DELARONDE STREET
P O BOX 6008 • NEW ORLEANS, LOUISIANA 70174

January 29, 1976

File: LPL 4656
0-3-A35.02.01
Response Req'd Yes
BY; February 10, 1976

Mr. R. K. Stampley
Ebasco Servies, Inc.
Two Rector Street
New York, NY 10006

SUBJECT: Waterford SES Unit No. 3
NRC Audit - January 7-9, 1976

Dear Mr. Stampley:

Attached is a copy of a letter dated January 27, 1976, from the NRC Office of Inspection and Enforcement - Region IV together with a copy of the NRC Inspectors Report concerning the audit conducted on January 7-9, 1976.

Please note the paragraph of the letter relative to proprietary information. We request you advise LP&L by February 10, 1976, as to whether or not you consider any information contained in the report to be proprietary.

If any information in this report is considered proprietary, your written response must be handled in an expeditious manner. Our response to the NRC must be made before Monday, February 16, 1976. If you do not contact us by February 10, 1976, we will assume you have no comments.

By copy of this letter to Mr. A. L. Gaines, we are asking CE to respond to this request in like manner.

Yours very truly,

R. J. Meyer
Vice President - Engineering and Production

RJM:LLB:dd

Attachment

cc: R. K. Stampley (2), D. I. Aswell, J. O. Booth (2), L. V. Maurin, A. E. Henderson, P. V. Prasankumar, D. B. Lester, H. W. Otillio, C. G. Chezem, L. Biondolillo, F. X. Shaughnessy, J. M. Brooks, D. N. Galligan, T. F. Gerrets, A. L. Gaines

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