



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

February 22, 1985

PDR  
016

54-382

Ms. Billie Pirner Garde  
Ms. Lynne Bernabei  
Government Accountability Project  
1555 Connecticut Avenue, NW, Suite 202  
Washington, DC 20036

IN RESPONSE REFER  
TO FOIA-84-455

Dear Ms. Garde and Ms. Bernabei:

This is in further response to your letter dated May 31, 1984, in which you requested, pursuant to the Freedom of Information Act (FOIA), all records relevant to and/or generated in connection with any report or study of the basemat cracking and water leakage and seepage problems at the Waterford III plant conducted and issued subsequent to the formation of the NRC Waterford Task Force.

By letter dated August 20, 1984, with its attached Appendices A and B, we informed you that certain records subject to your request were available for your inspection and copying at the NRC Public Document Room (PDR). We also informed you that we would notify you upon review of additional records subject to your FOIA request.

At this time, we are placing the records identified on enclosed Appendix C in the PDR. These records will be filed in PDR folder FOIA-84-455 under your names. The records identified on enclosed Appendix D are filed in other PDR folders and retrievable by the accession numbers noted beside the record descriptions.

Additional records that are subject to your request are undergoing further review for disclosure determinations and will be addressed in another letter to you.

Sincerely,

J. M. Felton, Director  
Division of Rules and Records  
Office of Administration

Enclosures: As stated

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PDR FOIA  
GARDEB4-455 PDR

APPENDIX C  
RECORDS IN PDR FILE FOIA-84-455

Re: FOIA-84-455

LP&L Correspondence and Other Documentation

1. Undated Draft Form Letter to Louisiana Industries, Inc., from W. G. Griggs, Ebasco, Re: Uniformity in Concrete Batching (2 pages)
2. Undated Design Concept Outline; Figure 2.5-102 (4 pages)
3. Undated Waterford Unit 3 - Recharge Program (7 pages)
4. Undated Appendix I - Composite Foundation Mat Differential Settlement Contours (2 pages)
5. Undated Draft letter from Griggs to Von Farnsworth Regarding Concrete Batch Restrictions (2 pages)
6. 12/15/75 Letter to R. A. Hartnett from J. O. Booth Re: Concrete Placement Operating Audit (2 pages)
7. 12/17/75 Letter from Meyer to Stampley Transmitting Stop Work Order No. 1 (15 pages)
8. 12/18/75 LP&L Stop Work Order Release signed by A. E. Henderson, QA Manager (2 pages)
9. 12/18/75 Letter from Griggs to Quality Control Engineers, Supervisors, and Inspectors Subject: Supplemental Instructions Regarding Quality Control Concrete Inspection Activities (1 page)
10. 12/19/75 Telephone Communications Between W. G. Hubacek and T. F. Gerrets Re: Construction Status (1 page)
11. 01/27/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-6 (7 pages)
12. 01/27/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-7 (6 pages)
13. 02/03/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-12 (16 pages)
14. 02/19/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-19S (2 pages)
15. 03/22/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-19S Reaudit #1 (5 pages)
16. 03/22/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-29S (2 pages)
17. 03/23/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-5 Reaudit #1 (4 pages)
18. 03/23/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-8 Reaudit #1 (2 pages)
19. 04/06/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-31S (3 pages)
20. 04/06/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-13 Reaudit #1 (9 pages)
21. 05/03/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-17S Reaudit #1 (4 pages)
22. 05/14/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-5 Reaudit #2 (2 pages)

## APPENDIX C (Continued)

- 2 -

Re: FOIA-84-455

23. 06/04/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 75-63S Reaudit #1 (8 pages)
24. 07/19/76 Letter from Gallagher to W. C. Griggs Subject: Mechanical Splicing of Concrete Reinforcing Steel Specification LOU 1564.479 (21 pages)
25. 07/19/76 Letter from Gallagher to W. C. Griggs Subject: Mechanical Splicing of Concrete Reinforcing Steel Specification LOU 1564.479 (37 pages)
26. 08/03/76 Letter from Gerrets to J. O. Booth Subject: Waterford Unit 3, Transmittal of Site Audit Report No. W3S 76-8 Reaudit #2 (3 pages)
27. 09/02/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report No. W3S 76-6 Reaudit #2 (3 pages)
28. 09/13/76 Memo to Frank Howard from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
29. 09/13/76 Memo to Frank Howard from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
30. 09/16/76 Memo to Frank Howard from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
31. 09/16/76 Letter from Gordy to Frank Howard Subject: LP&L - Waterford Steam Electric Station 1980 - 1165 NW Installation - Unit No. 3 (1 page)
32. 09/17/76 Letter from Gordy to Frank Howard/Abe Cochran Subject: LP&L Waterford Steam Electric Station 1980 - 1165 MW Installation - Unit No. 3 (2 pages)
33. 09/17/76 Letter from Gordy to Frank Howard/Abe Cochran Subject: LP&L Waterford Stea, Electric Station 1980 - 1165 MW Installation - Unit No. 3 (1 page)
34. 09/20/76 Memo to Quality Control Document Control Supervisor from W. C. Griggs Re: List of People With Access to Quality Assurance Record Files (1 page)
35. 09/20/76 Memo to Frank Howard from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
36. 09/21/76 Letter from Gordy to Frank Howard/ Abe Cochran Subject: LP&L Waterford Steam Electric Station 1980 - 1165 MW Installation - Unit No. 3 (1 page)
37. 09/22/76 Memo to Carl Fletcher from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
38. 09/24/76 Memo to Frank Howard from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
39. 09/28/76 Memo to Abe Cochran from Steve Gordy Re: LP&L Waterford Steam Electric Station 1980-1165 MW Installation Unit No. 3 (1 page)
40. 09/29/76 Inter-Office Memo to Burgard from Steve Gordy Re: Transmittal of Admixture Qualification Report (1 page)
41. 10/13/76 Letter from Gerrets to J. O. Booth Subject: Waterford SES Unit 3, Transmittal of Site Audit Report W3S 76-8 Reaudit #3 (2 pages)
42. 10/14/76 Inter-Office Memo to R. A. Hartnett from S. Gordy Re: Items to be Discussed at Meeting (1 page)
43. 10/18/76 Inter-Office Memo to Frank Howard/Cal Griggs/Tim Getzlaff from Steve Gordy Re: Authorization for Paul Reynolds (1 page)

APPENDIX C (Continued)

- 3 -

Re: FOIA-84-455

44. 10/20/76 Inter-Office Memo to Frank Howard from Steve Gordy Re: J. A. Jones Records for 565 and 593 Wall Placements (2 pages)
45. 10/20/76 Letter to G. A. Greathouse from W. C. Griggs Re: Records for Wall and Column Placements in the Fuel Handling Building (2 pages)
46. 10/21/76 Transmittal Form from Gordy Subject: Backfill Reports from J. A. Jones (1 page)
47. 10/24/76 Inter-Office Memo from Steve Gordy Re: Cadweld Location Maps (1 page)
48. 10/27/76 Inter-Office Memo from Steve Gordy Re: Welding Electrode Requisitions (1 page)
49. 10/28/76 Letter to W. C. Griggs from G. A. Greathouse Re: Q.A. Documentation (2 pages)
50. 10/28/76 Inter-Office Memo from Steve Gordy Re: Rebar User's Test Reports (1 page)
51. 10/29/76 Inter-Office Memo from Steve Gordy Re: Missing Documentation for the FHB Wall Placements (1 page)
52. 11/03/76 Inter-Office Memo to Griggs from Steve Gordy Re: Items to Consider at Meeting (1 page)
53. 11/03/76 Inter-Office Memo from Steve Gordy Re: J. A. Jones Documentation for FHB Wall Placements (1 page)
54. 11/08/76 Inter-Office Memo from Steve Gordy Re: Admixture Dispensers (1 page)
55. 11/08/76 Inter-Office Memo from Steve Gordy Re: Admixture Dispensers (1 page)
56. 11/09/76 Inter-Office Memo from Steve Gordy Re: Test Reports from Barrow-Agee (1 page)
57. 11/15/76 Inter-Office Memo from Steve Gordy Re: J. A. Jones Documentation for Placement 593-501-3AA/U242AA (1 page)
58. 11/16/76 Inter-Office Memo from Steve Gordy Re: Uniformity Testing (1 page)
59. 11/16/76 Letter to Rick Wilson Re: Q. A. Documentation (1 page)
60. 11/16/76 Letter to Mr. Von Farnsworth from W. C. Griggs Re: Equipment Calibration (1 page)
61. 11/17/76 Inter-Office Memo from Steve Gordy Re: Level I Checks (1 page)
62. 11/17/76 Inter-Office Memo to Carl Fletcher/Bob Roffe from Steve Gordy Re: Documentation on Cadwelding (1 page)
63. 11/22/76 Inter-Office Memo to C. Griggs/R. Hartnett from Steve Gordy Re: Meeting Scheduled For Nov. 24, 1976 at 9:00 a.m. (1 page)
64. 11/24/76 Letter to Lloyd Wilson from W. C. Griggs Re: Documentation Review (2 pages)
65. 11/30/76 Inter-Office Memo from Steve Gordy Re: Discrepancy Notice W-19 (1 page)
66. 11/30/76 Inter-Office Memo from Steve Gordy Re: Discrepancies (1 page)
67. 11/30/76 Letter from Gerrets to J. O. Booth Subject: Waterford Unit 3, Transmittal of Site Audit Report No. W3S 76-29S Reaudit #1 (3 pages)
68. 12/06/76 Inter-Office Memo from Steve Gordy Re: Geologic Mapping Documentation (1 page)
69. 12/10/76 Letter to Distribution List from W. C. Griggs Re: Discrepancy Notices (1 page)



## APPENDIX C (Continued)

- 4 -

Re: FOIA-84-455

70. 12/14/76 Transmittal Form to Howard from Gordy Subject: Housekeeping Inspection Report GH-12 (1 page)
71. 12/17/76 Transmittal Form to Howard from Gordy Subject: Slipforming Documentation (1 page)
72. 12/22/76 Transmittal Form to Howard from Gordy Subject: Documentation from Peabody Testing (1 page)
73. 12/28/76 Transmittal Form to Howard from Gordy Subject: J. A. Jones Placement Documentation (1 page)
74. 01/03/77 Letter from Gordy to F. Howard Subject: LP&L - Waterford Steam Electric Station 1980 - 1165 MW Installation - Unit No. 3, Documentation of Rebar User's Testing (4 pages).
75. 01/04/77 Inter Department Memo to Frank Howard from Steve Gordy Re: Jones Documentation (1 page)
76. 01/04/77 Inter Department Memo to Abe Cochran from Steve Gordy Re: QCIP-5-4 (1 page)
77. 01/05/77 Inter Department Memo to Larry Gilliland from Steve Gordy Re: Desk #155 (1 page)
78. 01/06/77 Inter Department Memo to John McCutchen from Steve Gordy Re: Rebar User's Tests (1 page)
79. 01/07/77 Inter Department Memo to Cal Griggs from Steve Gordy Re: Items for Consideration (1 page)
80. 01/10/77 Inter Department Memo to File Re: Contracts (1 page)
81. 01/11/77 Inter Department Memo to Carl Fletcher Re: Gulf Engineering Co. (1 page)
82. 01/12/77 Memorandum to Carl Fletcher from Gordy Subject: Cadweld Tensile Tests (1 page)
83. 01/14/77 Memorandum to Griggs/Hartnett from Gordy Subject: QA/QC Interfacing (1 page)
84. 01/14/77 Memorandum to Frank Howard from Gordy Subject: Ingratitude (1 page)
85. 01/14/77 Memorandum to Frank Howard from Gordy Subject: J.A. Jones Placement Records (1 page)
86. 01/17/77 Memorandum to Frank Howard/T. Getzlaff Subject: Closed Discrepancies (1 page)
87. 01/17/77 Memorandum to W. Griggs from Gordy Subject: LP&L - Waterford Steam Electric Station 1980 - 1165 MW Installation - Unit No. 3 (3 pages)
88. 01/17/77 Inter Department Memo to Carl Fletcher from Steve Gordy Re: Storage Inspection Reports (1 page)
89. 01/31/77 Letter to Mr. Von Farnsworth from W. C. Griggs Re: Batch Plant Calibration (1 page)
90. 02/01/77 Inter Department Memo to Tom Gutwall Re: Material Weld (1 page)
91. 02/16/77 Inter-Office Memo to Carl Fletcher from Ed Lemke Re: Engineering Procedurer PR 12.0 Traveler System (1 page)
92. 02/16/77 Memorandum from Ed Lemke Subject: Engineering Procedure PR 11.0 (1 page)
93. 2/23/77 Inter-Office Memo to Dick Sullivan from Ed Denne Re: Welding Rod Requisitions (1 page)
94. April/77 LP&L Waterford SES Unit No. 3 Report Entitled "Allowable Mat Bearing Pressure" (11 pages)
95. 03/04/77 Note from Ed Lemke Re: Placement Packages (2 pages)
96. 11/23/82 Memo to L. Stinson from W. Yaeger Subject: Recommended Disposition for NCR Discrepancies Listed Per Attachment #1 (2 pages)

## APPENDIX C (Continued)

- 5 -

Re: FOIA-84-455

97. 06/08/83 Memo to Distribution from H.J. Kunis Subject: Trend Coding (1 page)
98. 06/09/83 Memo to L. Stinson from J. Czyrko Subject: Review of J.A. Jones Seismic Class I Installation Records (7 pages)
99. 07/11/83 Memo to File from Gerrets Subject: Meeting Concerning Civil Records (1 page)
100. 09/21/83 Memo to R. Milhiser from A. Cutrona Subject: Review of J.A. Jones Concrete Placement Packages (12 pages)
101. 09/29/83 Letter to Richard DeYoung from J.M. Cain Subject: Waterford 3 SES Docket No. 50-382 (54 pages)
102. 11/17/83 Letter to G. Knighton from K. Cook Subject: Ground Water Sample Associated With Basemat (3 pages)
103. 11/17/83 Memo to R. DeDamo from H. Kunis Subject: Inspection Criteria For Instrumentation Supports Welds Identified by Review Personnel - Seismic Class I (1 page)
104. 12/13/83 Memo to A. Cutrona from B. Grant Subject: Nuclear Safety Classification of Waterstops (1 page)
105. 12/22/83 Letter to T. Gerrets from J. Davis Subject: Evaluation of Corrective Action Initiated As a Result of Memorandum W3QAIRG-0215 dated 12/9/82 (3 pages)
106. 12/22/83 Letter to R. Leddick from T. Davis Subject: Letter Documenting Interview with the NRC and Summary of Investigation (5 pages)
107. 05/19/83 Telephone Communication between Sam Horton-Ebasco and Brenda Willerkson-J.A. Jones Subject: Daily Cadweld Inspection Records (3 pages)
108. 01/13/84 Letter to G. Constable from L. Bass Subject: Results of LP&L QA's Review of Allegations (3 pages)
109. 03/26/84 LP&L Presentation to NRC Re: Waterford 3 SES Common Mat Integrity (22 pages)
110. 03/26/84 Meeting List Subject: LP&L Presentation of Basement Adequacy (3 pages)

Re: FOIA-84-455

Waterford Steam Electric Station - Discrepancy Notices

111. D.N.N. - C-7 (3 pages)  
112. D.N.N. - C-12 (2 pages)  
113. D.N.N. - C-13 (2 pages)  
114. D.N.N. - C-15 (1 page)  
115. D.N.N. - C-27 (3 pages)  
116. D.N.N. - C-42 (1 page)  
117. D.N.N. - C-43 (1 page)  
118. D.N.N. - C-44 (1 page)  
119. D.N.N. - C-45 (1 page)  
120. D.N.N. - C-46 (1 page)  
121. D.N.N. - C-47 (1 page)  
122. D.N.N. - C-48 (1 page)  
123. D.N.N. - C-49 (1 page)  
124. D.N.N. - C-50 (1 page)  
125. D.N.N. - C-51 (1 page)  
126. D.N.N. - C-52 (3 pages)  
127. D.N.N. - C-54 (2 pages)  
128. D.N.N. - C-55 (3 pages)  
129. D.N.N. - C-58 (1 page)  
130. D.N.N. - C-61 (1 page)  
131. D.N.N. - C-62 (1 page)  
132. D.N.N. - C-63 (1 page)  
133. D.N.N. - C-65 (3 pages)  
134. D.N.N. - C-72 (5 pages)  
135. D.N.N. - C-75 (1 page)  
136. D.N.N. - C-77 (1 page)  
137. D.N.N. - C-78 (1 page)  
138. D.N.N. - C-80 (2 pages)  
139. D.N.N. - C-90 (2 pages)  
140. D.N.N. - C-91 (2 pages)  
141. D.N.N. - C-92 (2 pages)  
142. D.N.N. - C-105 (1 page)  
143. D.N.N. - C-106 (1 page)  
144. D.N.N. - C-107 (1 page)  
145. D.N.N. - C-108 (1 page)  
146. D.N.N. - C-109 (1 page)  
147. D.N.N. - C-114 (1 page)  
148. D.N.N. - C-115 (3 pages)  
149. D.N.N. - C-116 (6 pages)  
150. D.N.N. - C-117 (4 pages)  
151. D.N.N. - C-118 (2 pages)  
152. D.N.N. - C-119 (1 page)  
153. D.N.N. - C-120 (10 pages)  
154. D.N.N. - C-130 (1 page)  
155. D.N.N. - C-133 (1 page)  
156. D.N.N. - C-137 (1 page)  
157. D.N.N. - C-145 (1 page)  
158. D.N.N. - C-147 (1 page)  
159. D.N.N. - C-148 (3 pages)

APPENDIX C (Continued)

- 7 -

Re: FOIA-84-455

- 160. D.N.N. - C-152 (2 pages)
- 161. D.N.N. - C-153 (5 pages)
- 162. D.N.N. - C-154 (4 pages)
- 163. D.N.N. - C-155 (1 page)
- 164. D.N.N. - C-158 (1 page)
- 165. D.N.N. - C-166 (10 pages)
- 166. D.N.N. - C-170 (1 page)
- 167. D.N.N. - C-176 (1 page)
- 168. D.N.N. - C-181 (3 pages)
- 169. D.N.N. - C-182 (1 page)
- 170. D.N.N. - C-183 (1 page)
- 171. D.N.N. - C-184 (1 page)
- 172. D.N.N. - C-185 (1 page)
- 173. D.N.N. - C-187 (1 page)
- 174. D.N.N. - C-188 (1 page)
- 175. D.N.N. - C-189 (1 page)
- 176. D.N.N. - C-190 (1 page)

EBASCO Services, Inc. - Discrepancy Notices

- 177. List of Voided Civil Discrepancy Notices, 1975-1977 (17 pages)



Re: FOIA-84-455

Construction Site Daily Weather Records

178. Sheet identifying documents (1 page)  
179. 12/01/75 (1 page)  
180. 12/02/75 (1 page)  
181. 12/03/75 (1 page)  
182. 12/04/75 (1 page)  
183. 12/05/75 (1 page)  
184. 12/08/75 (1 page)  
185. 12/09/75 (1 page)  
186. 12/10/75 (1 page)  
187. 12/11/75 (1 page)  
188. 12/12/75 (1 page)  
189. 12/15/75 (1 page)  
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197. 12/26/75 (1 page)  
198. 12/29/75 (1 page)  
199. 12/30/75 (1 page)  
200. 12/31/75 (1 page)  
201. 01/05/76 (1 page)  
202. 01/06/76 (1 page)  
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205. 01/09/76 (1 page)  
206. 01/12/76 (1 page)  
207. 01/13/76 (1 page)  
208. 01/14/76 (1 page)  
209. 01/15/76 (1 page)  
210. 01/16/76 (1 page)  
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215. 01/23/76 (1 page)  
216. 01/26/76 (1 page)  
217. 01/27/76 (1 page)  
218. 01/28/76 (1 page)  
219. 01/29/76 (1 page)  
220. 01/30/76 (1 page)  
221. 02/02/76 (1 page)  
222. 02/03/76 (1 page)

## APPENDIX C (Continued)

- 9 -

Re: FOIA-84-455

Construction Site Daily Weather Records - Continued

223.	02/04/76	(1 page)
224.	02/05/76	(1 page)
225.	02/06/76	(1 page)
226.	02/09/76	(1 page)
227.	02/10/76	(1 page)
228.	02/11/76	(1 page)
229.	02/12/76	(1 page)
230.	02/13/76	(1 page)
231.	02/17/76	(1 page)
232.	02/18/76	(1 page)
233.	02/20/76	(1 page)
234.	02/23/76	(1 page)
235.	02/24/76	(1 page)
236.	02/25/76	(1 page)
237.	02/26/76	(1 page)
238.	02/27/76	(1 page)
239.	03/01/76	(1 page)
240.	03/03/76	(1 page)
241.	03/04/76	(1 page)
242.	03/05/76	(1 page)
243.	03/08/76	(1 page)
244.	03/09/76	(1 page)
245.	03/10/76	(1 page)
246.	03/11/76	(1 page)
247.	03/12/76	(1 page)
248.	03/15/76	(1 page)
249.	03/16/76	(1 page)
250.	03/17/76	(1 page)
251.	03/18/76	(1 page)
252.	03/19/76	(1 page)
253.	03/22/76	(1 page)
254.	03/23/76	(1 page)
255.	03/24/76	(1 page)
256.	03/25/76	(1 page)
257.	03/26/76	(1 page)
258.	03/29/76	(1 page)
259.	03/30/76	(1 page)
260.	03/31/76	(1 page)
261.	04/01/76	(1 page)
262.	04/02/76	(1 page)
263.	04/05/76	(1 page)
264.	04/06/76	(1 page)
265.	04/08/76	(1 page)
266.	04/09/76	(1 page)
267.	04/12/76	(1 page)
268.	04/13/76	(1 page)
269.	04/15/76	(1 page)
270.	04/19/76	(1 page)
271.	04/20/76	(1 page)

## APPENDIX C (Continued)

- 10 -

Re: FOIA-84-455

272. 04/21/76 (1 page)  
273. 04/22/76 (1 page)  
274. 04/23/76 (1 page)  
275. 04/26/76 (1 page)  
276. 04/27/76 (1 page)  
277. 04/28/76 (1 page)  
278. 04/29/76 (1 page)  
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284. 05/07/76 (1 page)  
285. 05/10/76 (1 page)  
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293. 05/20/76 (1 page)  
294. 05/21/76 (1 page)  
295. 05/24/76 (1 page)  
296. 05/25/76 (1 page)  
297. 05/26/76 (1 page)  
298. 05/27/76 (1 page)  
299. 05/28/76 (1 page)  
300. 05/31/76 (1 page)

Hygro-Thermograph Chart No. 207-WB

301. 12/01/75 (1 page)  
302. 12/08/75 (1 page)  
303. 12/15/75 (1 page)  
304. 12/22/75 (1 page)  
305. 12/29/75 (1 page)  
306. 01/05/76 (1 page)  
307. 01/12/76 (1 page)  
308. 01/19/76 (1 page)  
309. 01/26/76 (1 page)  
310. 02/03/76 (1 page)  
311. 02/09/76 (1 page)  
312. 02/17/76 (1 page)  
313. 02/23/76 (1 page)  
314. 03/01/76 (1 page)  
315. 03/08/76 (1 page)  
316. 03/15/76 (1 page)  
317. 03/22/76 (1 page)  
318. 03/29/76 (1 page)  
319. 05/28/76 (1 page)  
320. 06/04/76 (1 page)  
321. 08/23/76 (1 page)  
322. 08/30/76 (1 page)



## APPENDIX C (Continued)

- 12 -

Re: FOIA-84-455

Miscellaneous Documents

- 323. 12/13/79 Fischbach and Moore, Inc., Rework Form No. 355, Subject: "Modify Support as Required to Suit Conduit Installation" (1 page).
- 324. 02/21/84 Statement by Leonard T. Kaminski regarding signatures on daily reports being in same handwriting (page 4 only of 4 pages).
- 325. 05/24/84 List of cadwell test numbers and date that tests were performed (1 page).
- 326. undated Attachment to Surveillance Report No. SRC-76-2-1 (1 page).
- 327. undated List of electrical penetration problems (1 page).
- 328. undated Notes on contour lines of cracks in basemat (1 page).
- 329. undated Crack mapping of reactor building (1 page).
- 330. undated Lists of welds (34 pages).
- 331. undated List of tests of cadwell Operation # 203W (15 pages).
- 332. undated Waterford 3 - Plot Plan, Figure 1.2-1 (1 page)
- 333. undated Waterford 3 - General Arrangement Reactor Auxiliary Building, Figure 1.2-10 (1 page).
- 334. undated Waterford 3 - General Arrangement Reactor Auxiliary Building-Section, Figure 1.2-12 (1 page).
- 335. undated Waterford 3 - General Arrangement Reactor Auxiliary Building--Plan EL - 4.00', Figure 1.2-19 (1 page).
- 336. undated Waterford 3 - General Arrangement-Reactor Auxiliary Building-Plans and Sections (Sheet 4), Figure 1.2-23 (1 page).
- 337. undated Waterford 3 - General Arrangement Cooling Towers-Plan, Figure 1.2-24 (1 page).
- 338. undated Waterford 3 - General Arrangement Cooling Towers-Sections, Figure 1.2-25 (1 page).
- 339. undated Halstead Engineering Associates, Inc., Mat Crack Map (6 pages).
- 340. undated Waterford 3 - Design Concept Outline, Figure 2.5-102 (4 pages).
- 341. undated Waterford 3 - Seismic Category 1 Structural Layout, Figure 3.8.1 (1 page).
- 342. undated Drawing of surface cracks (1 page).

APPENDIX C (Continued)

- 13 -

Re: FOIA-84-455

343. Staff Notebook on NCR# 6234 (287 pages).

**FREEDOM OF INFORMATION  
ACT REQUEST**

84-455

C/343

APPENDIX C (Continued)

- 14 -

Re: FOIA-84-455

344. EXCERPTS FROM RECORD RELATED TO NCR-W3-7481 (192 pages)

FREEDOM OF INFORMATION  
ACT REQUEST

84-455

C/344

345. Numbered and unnumbered documents related to selected NCRs (415 pages).

**FREEDOM OF INFORMATION  
ACT REQUEST**

84-455 C/345



## APPENDIX C (Continued)

- 16 -

Re: FOIA-84-455

EBASCO Services, Inc. - Correspondence

346. 7/? 74 Purchase Order to A. Giambelleca Construction, Inc. from Ebasco Services, Inc. Agent, for Clam Shell Material for Waterford Site (1 page)
347. 05/30/75 To J. M. Wyatt, LP&L, from R. K. Stampley, Project Manager, Subject: "Nuclear Quality Assurance Program" (6 pages)
348. 12/05/75 Purchase Order to Borthers Construction, Inc., from Ebasco Services, Inc. Agent, for Clamshell Material for Waterford Site (1 page)
349. 12/09/75 To G. A. Greathouse, Jones Construction Co., from Iktidar Hussain, QA Site Supervisor, Subject: "Concrete Placement Operations Audit" (5 pages)
350. 12/09/75 To R. J. Meyer, LP&L, from A. A. Ferlito, Chief, Concrete Hydarulic Engineer, Subject: "Waterford SES Unit No. 3 Filter and Backfill Specification" (113 pages)
351. 12/17/75 To R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "Stop Work Order Regarding Concrete Placement Activities" (45 pages)
352. 12/18/75 To J. A. Jones Construction Company from J. O. Booth, Subject: "Your Response to Stopwork Order No. 1" (2 pages)
353. 12/18/75 To R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "Stop Work Order Regarding Concrete Placement Activities" (7 pages)
354. 01/02/76 To A. E. Henderson, LP&L, from J. M. Brooks, Ebasco, Subject: "Stop Work Order No. 1" with notes of 12/17/75 meeting with LP&L Regarding SWO No. 1 (4 pages)
355. 01/23/76 To R. A. Hartnett from J. O. Booth, Subject: "Response to QA Surveillance Report No. SRC-76-1-1 Concrete Test Specimens (3 pages)
356. 02/03/76 To Mr. Farnsworth, Louisiana Industries, from R. A. Hartnett, Q.A. Site Supervisor, Subject: "Concurrence between Q.A. Corporation and Ebasco Personnel" (2 pages)
357. 02/11/76 To Mr. R. J. Meyer, LP&L, from J. O. Booth, Subject: "LP&L Audit Report No. W3S-76-5" (1 page)
358. 02/12/76 To G. A. Greathouse, Jones Construction Co., from R. A. Hartnett, QA Site Supervisor, Subject: "Surveillance of Concrete Repairs of Placement #499 S02-10B" (2 pages)

## APPENDIX C (Continued)

- 17 -

Re: FOIA-84-455

359. 02/17/76 To Mr. G. A. Greathouse, Jones Construction Co., from R. A. Hartnett, Q.A. Site Supervisor, Subject: "Quality Assurance Surveillance Report #SRC-76-1-2 and Nonconformance Report #W3-27" (7 pages)
360. 02/18/76 To G. A. Greathouse, Jones Construction Co., from R. A. Hartnett, Q.A. Site Supervisor, Subject: "Quality Assurance Surveillance Report No. SRC-76-2-2" (2 pages)
361. 03/03/76 To Mr. Farnsworth from R. A. Hartnett, Q.A. Site Supervisor, Subject: "Quality Assurance Surveillance Report No. SRC-76-2-4" (2 pages)
362. 03/08/76 To R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Audit Report No. W3S-76-13" (10 pages)
363. 03/31/76 To R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Audit Report W3S-76-29S" (5 pages)
364. 04/01/76 To Mr. G. A. Greathouse, Jones Construction Co., from R. A. Hartnett, Q.A. Site Supervisor, Subject: "Quality Assurance Audit Report JG-76-3-2" (9 pages)
365. 04/06/76 To R. A. Hartnett, LP&L, from J. O. Booth and W. C. Griggs, Ebasco, Subject: "QA Audit Report JG-76-1-2 (5 pages)
366. 04/19/76 To R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Audit Report No. W3S 76-6" (5 pages)
367. 05/10/76 To Mr. R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Audit Report No. W3S 76-8 Reaudit #1 (2 pages)
368. 05/10/76 To Fegles-Power Service Corp. from J. O. Booth, Project Superintendent, Subject: "Housekeeping" (9 pages)
369. 05/13/76 To R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Audit Report No. W3S-76-6 Reaudit #1" (6 pages)
370. 05/17/76 To Mr. R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Audit Report No. W3S76-17S Reaudit No. 1 (4 pages)
371. 05/17/76 To Mr. R. J. Meyer, LP&L, from J. O. Booth, Project Superintendent, Subject: "LP&L Site Surveillance Report W3S-76-31S (2 pages)
372. 05/17/76 To R. A. Hartnett, LP&L, from B. D. Fowler, Ebasco, Subject: "QA Surveillance Report No. SRC-76-5-3" (3 pages)
373. 11/24/76 To Mr. Lloyd R. Wilson, Jones Construction Corp., from W. C. Griggs, Senior Q. C. Supervisor, Subject: "Documentation Review" (3 pages)

## APPENDIX C (Continued)

- 18 -

Re: FOIA-84-455

- 374. 01/31/77 To Mr. Von Farnsworth, Louisiana Industries, from W. C. Griggs, Senior Q. C. Supervisor, Subject: "Batch Plant Calibration" (1 page)
- 375. 06/29/77 To Mr. R. J. Drueding, Boh Brothers Construction Co., from J. O. Booth, Project Superintendent, Subject: "Contract W3-NY-1, Excavation and Dewatering, (3 pages)
- 376. 07/27/77 To J. O. Booth, Ebasco, from A. A. Ferlito, Chief Civil Engineer, Subject: "Waterford SES - Unit No. 3 Combination Structure Mat" (2 pages)
- 377. 07/27/77 To J. O. Booth, Ebasco, from A. A. Ferlito, Chief Civil Engineer, Subject: "Waterford SES - Unit No. 3 Combination Structure Mat" (2 pages)
- 378. 02/10/83 To Mercury Company of Norwood, Inc. from J. L. Wills, Project Superintendent, Subject: "Material Traceability for Piping, Tubing and Instrument Supports" (5 pages)
- 379. 04/15/83 To H. Dunis from P. Bergand, Subject: "Cadweld Tensile Test Reports" (1 page)
- 380. 04/21/83 To John Sullivan from Peg Burgard, QAIRG Manager, Subject: "Implementation of QAI-9, Rev. 2" (1 page)
- 381. 06/06/83 To John Czyrko, Ebasco, from George Hill, Subject: "Review of Seismic Class I Concrete Records" (13 pages)
- 382. 06/06/83 To John Czyrko, Ebasco, from George Hill, Subject: "Review of Seismic Class I Concrete Records" (6 pages)
- 383. 06/11/83 To John Tompeck, Ebasco, from L. A. Stinson, Subject: "Draft QAIRG Problem Report Recommended for Nonconformance" (6 pages)
- 384. 06/13/83 File 35.0, Subject: "Statusing and Tracking" (1 page)
- 385. 06/25/83 To Peggy Burgard, QAIRG, from H. Kunis, Q. A. Site Supervisor, Subject: "Cadweld Tensile Test Reports" (1 page)
- 386. 07/12/83 To L. Bass, Ebasco, from J. DeBruin, Subject: "LP&L Waterford SES - Unit No. 3" (1 page)
- 387. 11/14/83 To L. Bass, LP&L, from B. Grant, Ebasco, with six attached documents which describe the increased capacity for excavation dewatering installed in July, 1977. Documents provided to LP&L in response to NRC request to LP&L pursuant to Joint Intervenor's Contention No. 22 (31 pages).

APPENDIX C (Continued)

- 19 -

Re: FOIA-84-455

388. 02/01/84 To Q. A. Record Vault from S. Harton, Q. A. Site Supervisor,  
Subject: "Nonconformance Report Closure - No Corrective  
Action Required" (1 page)
389. 03/30/84 To B. Grant from E. S. Kowalski, Subject: "Waterford SES  
Unit No. 3 Nuclear Plant Island Structure Wall Hairline  
Crack Mapping Procedure" (36 pages)



APPENDIX C (Continued)

- 20 -

Re: FOIA-84-455

EBASCO Services, Inc. - Correspondence To EBASCO

- 390. 07/09/76 Letter to Clay Boyce, Ebasco, from James E. Barry, ERICO Products, Inc., Re: "Cadweld Kebar Splices" (28 pages)
- 391. 10/24/79 To Ebasco Services, Inc., from Peabody Testing, Inc., Re: "Certified Report of Nondestructive Examination" (1 page)
- 392. 10/25/79 To Ebasco Services, Inc. from Peabody Testing, Inc., Re: "Certified Report of Nondestructive Examination" (1 page)
- 393. 01/28/83 To L. Stinson, Ebasco Services, Inc., from L. A. Gilbert, Mercury Company of Norwood, Inc., Re: "Response to Site Surveillance Report No. W3-NY-15 SS-1" with attachments (16 pages)

APPENDIX C (Continued)

- 21 -

Re: FOIA-84-455

EBASCO Services, Inc. - Internal Correspondence

- 394. 11/24/75 To J. O. Booth from R. F. Vine and A. H. Wern, Re: "Concrete Design Mix" (3 pages)
- 395. 05/20/82 Note by Paul Elkins Re: Concrete Placement Number 573-1B-B/O-1 (1 page)
- 396. 01/27/84 Note to Sam Horton, QA, from B. Grant, Civil ESSE, Re: "ASP-IV-56 IR Procedure" (2 pages)
- 397. 02/18/84 Speedletter to Sam Horton, QA, from B. Grant, Civil ESSE, Re: "W3-Review of JA Jones Speedletters" (1 page)

## APPENDIX C (Continued)

- 22 -

Re: FOIA-84-455

EBASCO Services, Inc. Procedures

- 398. CP-203 Clam Shell Filter Blanket Test Fill (19 pages)
- 399. CP-203 Waterford Steam Electric Station - Unit No. 3 (8 pages)
- 400. CP-699 Handling, Storing, Installing, Cadwelding and Modification of Reinforcing Steel (7 pages)
- 401. CP-703 Hatch Plant Activities and Operations (22 pages)
- 402. CP-803 Excavation and Backfill (8 pages)
- 403. QCIP-1 Density Control of Shell (7 pages)
- 404. QCIP-2 Soils Control (25 pages)
- 405. QCIP-2 Soils Control (26 pages)
- 406. QCIP-2 Soils Control (14 pages)
- 407. QCIP-2 Soils Control (14 pages)
- 408. QCIP-2 Soils Control (16 pages)
- 409. QCIP-2 Soils Control (16 pages)
- 410. QCIP-2 Soils Control (14 pages)
- 411. QCIP-4 Control of Concrete Materials and Mixes (12 pages)
- 412. QCIP-4 Control of Concrete Materials and Mixes (11 pages)
- 413. QCIP-4 Control of Concrete Materials and Mixes (11 pages)
- 414. QCIP-5 Control of Concrete Mixing and Transporting (11 pages)
- 415. QCIP-6 Concrete Preplacement Inspection (12 pages)
- 416. QCIP-6 Concrete Preplacement Inspection (9 pages)
- 417. QCIP-6 Concrete Preplacement Inspection (10 pages)
- 418. QCIP-6 Concrete Preplacement Inspection (11 pages)
- 419. QCIP-6 Concrete Preplacement Inspection (9 pages)
- 420. QCIP-7 Inspection of Concrete Placement, Curing and Finishing (12 pages)
- 421. QCIP-7 Inspection of Concrete Placement, Curing and Finishing (16 pages)
- 422. QCIP-7 Inspection of Concrete Placement, Curing and Finishing (8 pages)
- 423. QCIP-8 Receiving Inspection, Storage and Testing of Concrete Reinforcing Steel (11 pages)
- 424. QCIP-9 Inspection of Concrete Reinforcing Steel Mechanical Splices (Cadwelds) (9 pages)
- 425. QCIP-9 Inspection of Concrete Reinforcing Steel Mechanical Splices (Cadwelds) (19 pages)
- 426. QCIP-9 Inspection of Concrete Reinforcing Steel Mechanical Splices (Cadwelds) (10 pages)
- 427. QCIP-9 Inspection of Concrete Reinforcing Steel Mechanical Splices (Cadwelds) (10 pages)
- 428. QC 4.0-4 Concrete Pre-Placement Inspection (12 pages)

EBASCO Services, Inc. - Quality Assurance Instructions

429. 04/19/83 QAI No. 9 Review and Handling of Construction - Installation  
Records (27 pages).

FREEDOM OF INFORMATION  
ACT REQUEST

84-455

C/429

## APPENDIX C (Continued)

- 24 -

Re: FOIA-84-455

EBASCO Services, Inc. - Quality Compliance Reports

430.	SRC-76-5-2	05/05/76	Rebar Placement-Shield Wall (1 page)
431.	W3QA-129	10/03/75	Quality Assurance Surveillance Report No. SRC-75-10-1 (2 pages)
432.	W3QA-156	10/22/75	Quality Assurance Surveillance Report No. SRG-75-10-1 (1 page)
433.	W3QA-241	12/18/75	Verification of Corrective Action to Audit Report JG-75-12-2 (1 page)
434.	W3QA-293	01/23/76	Quality Assurance Audit Report No. JG-75-12-5, Sampling and Testing of Fine & Coarse Aggregate (5 pages)
435.	W3QA-382	02/27/84	Quality Assurance Surveillance Report No. SRC-76-2-3 (2 pages)
436.	W3QA-407	03/10/76	Quality Assurance Reaudit Report JG-75-12-5A (3 pages)
437.	W3QA-594	05/06/76	Quality Assurance Surveillance Report No. SRC-76-5-1 (2 pages)

## APPENDIX C (Continued)

- 25 -

Re: FOIA-84-455

Ebasco Quality Assurance Nonconformance Reports

438.	W3-9	(7 pages)
439.	W3-10/JAJ-W3-1	(1 page)
440.	W3-11	(6 pages)
441.	W3-12	(5 pages)
442.	W3-19/JAJ-W3-8	(4 pages)
443.	W3-19A, W3-19/JAJ-W3-8A	(1 page)
444.	W3-23/JAJ-W3-12	(1 page)
445.	W3-24	(3 pages)
446.	W3-24	(1 page)
447.	W3-25	(1 page)
448.	W3-25	(8 pages)
449.	W3-26/JAJ-W3-13	(4 pages)
450.	W3-27	(3 pages)
451.	W3-29	(2 pages)
452.	W3-31	(3 pages)
453.	W3-32	(6 pages)
454.	W3-33	(2 pages)
455.	W3-34	(3 pages)
456.	W3-35	(4 pages)
457.	W3-36	(2 pages)
458.	W3-37	(3 pages)
459.	W3-39	(34 pages)
460.	W3-40	(2 pages)
461.	W3-41	(2 pages)
462.	W3-48/JAJ-W3-18	(3 pages)
463.	W3-61/JAJ-W3-32	(3 pages)
464.	W3-66/JAJ-W3-35	(1 page)
465.	W3-69/JAJ-W3-31	(3 pages)
466.	W3-78/JAJ-W3-45	(9 pages)
467.	W3-84/JAJ-W3-51	(4 pages)
468.	W3-85/JAJ-W3-58	(4 pages)
469.	W3-86/JAJ-W3-54	(2 pages)
470.	W3-89/JAJ-W3-55	(3 pages)
471.	W3-92/JAJ-W3-56	(3 pages)
472.	W3-93/JAJ-W-57	(28 pages)
473.	W3-93 - Supp#1	(6 pages)
474.	W3-93 - Supp#2	(3 pages)
475.	W3-95/JAJ-W3-59	(1 page)
476.	W3-96/JAJ-W3-60	(4 pages)
477.	W3-97/JAJ-W3-61	(2 pages)
478.	W3-98/JAJ-W3-62	(2 pages)
479.	W3-104/JAJ-W3-66	(4 pages)
480.	W3-106	(21 pages)
481.	W3-107	(11 pages)
482.	W3-108	(28 pages)
483.	W3-110	(17 pages)
484.	W3-111	(28 pages)
485.	W3-113	(10 pages)

## APPENDIX C (Continued)

- 26 -

Re: FOIA-84-455

486.	W3-114	(24 pages)
487.	W3-115	(7 pages)
488.	W3-116	(37 pages)
489.	W3-123	(28 pages)
490.	W3-124	(11 pages)
491.	W3-127	(10 pages)
492.	W3-128	(26 pages)
493.	W3-130	(7 pages)
494.	W3-131	(8 pages)
495.	W3-132	(7 pages)
496.	W3-137	(6 pages)
497.	W3-138	(7 pages)
498.	W3-139	(6 pages)
499.	W3-141	(7 pages)
500.	W3-148	(8 pages)
501.	W3-193	(1 page)
502.	W3-341A/JAJ-W3-239-A	(2 pages)
503.	W3-414/JAJ-W3-140	(2 pages)
504.	W3-491/JAJ-W3-341	(2 pages)
505.	W3-535	(17 pages)
506.	W3-1781/JAJ-W3-569	(5 pages)
507.	W3-5077	(8 pages)
508.	W3-5997	(1 page)
509.	W3-5997	(23 pages)
510.	W3-5998	(38 pages)
511.	W3-6212	(17 pages)
512.	W3-6234	(1 page)
513.	W3-6234	(189 pages)
514.	W3-6245	(57 pages)
515.	W3-7153	(5 pages)
516.	W3-7154	(11 pages)
517.	W3-7179	(14 pages)
518.	W3-7302	(37 pages)
519.	W3-7315	(8 pages)
520.	W3-7353	(2 pages)
521.	W3-7353	(8 pages)
522.	W3-7353	(11 pages)
523.	W3-7355	(67 pages)
524.	W3-7358	(12 pages)
525.	W3-7395	(4 pages)
526.	W3-7423	(8 pages)
527.	W3-7431	(1 page)
528.	W3-7481	(1 page)
529.	W3-7514	(21 pages)



APPENDIX C (Continued)

- 27 -

Re: FOIA-84-455

EBASCO Services, Inc. - Audit Reports

- 530. 12/02/75 JG-75-12-2 Concrete Placement Operations Audit (1 page).
- 531. 12/02/75 JG-75-12-2 LOU 1564.472, QCIP-5, ASTM-C31, QCIP-7 (1 page).
- 532. 12/02/75 JG-75-12-2 Concrete Placement Operations Audit (1 page).
- 533. 12/31/75 JG-75-12-6 Concrete Cylinder Testing, Audit of First 28-Day Test Results (2 pages).
- 534. 01/26/76 JG-76-1-2 Documentation Audit of Placement 499S02-7A (2 pages).

APPENDIX C (Continued)

- 28 -

Re: FOIA-84-455

EBASCO Services, Inc. - Field Change Reports

535.	CH-3	(1 page)
536.	CH-9	(1 page)
537.	CH-19	(4 pages)
538.	CH-21	(8 pages)
539.	CH-26	(1 page)
540.	CH-26	(1 page)
541.	CH-36	(1 page)
542.	CH-39	(1 page)
543.	CH-40	(1 page)
544.	CH-45	(1 page)
545.	CH-48	(1 page)
546.	CH-50	(1 page)
547.	CH-55	(1 page)
548.	CH-57	(1 page)
549.	CH-61	(1 page)
550.	CH-63	(1 page)
551.	CH-73	(1 page)
552.	CH-83	(1 page)
553.	CH-87	(1 page)
554.	CH-111	(1 page)
555.	CH-116	(1 page)
556.	CH-117	(3 pages)
557.	CH-118	(2 pages)
558.	CH-130	(18 pages)
559.	CH-131	(57 pages)
560.	CH-586	(9 pages)

## APPENDIX C (Continued)

- 29 -

Re: FOIA-84-455

Concrete Placement Documents

- 561. 1973 Ebasco Services, Inc., Ebasco Specification - "Mechanical Splicing of Concrete Reinforcing Steel" (12 pages)
- 562. 03/11/75 Ebasco Services, Inc., Ebasco Specification - "Concrete Masonry" (60 pages)
- 563. 09/23/75 Ebasco Services, Inc., Ebasco Specification - "Mechanical Splicing of Concrete Reinforcing Steel - Seismic Class I" (1 page)
- 564. 10/04/75 Ebasco Services, Inc. Ebasco Specification - "Concrete Masonry - Seismic Class I" (1 page)
- 565. 12/11/75 Concrete Placement Inspection Report, Placement No. 477-502-2 (7 pages)
- 566. 12/16/75 Concrete Placement and Consolidation Training Session, including roster, class outline, and selected notes (5 pages)
- 567. 03/17/76 Concrete Placement Inspection Report, Placement No. 499-11B (2 pages)
- 568. 03/22/76 Concrete Preplacement Checklist Record, Placement No. G 499502-5A (84 pages)
- 569. 04/12/76 Note by David Noss to be attached to Placement Inspection Report Re: Sample Testing of 04/12/76 Pouring (1 page)
- 570. 04/22/76 Concrete Curing Log, Placement No. 499503-16 (1 page)
- 571. 05/12/76 Concrete Curing Log, Placement No. 499503-17 (1 page)
- 572. 08/09/76 Concrete Preplacement Checklist Record, Placement No. G 499503-19 (9 pages)
- 573. 08/25/76 Concrete Curing Log, Placement No. 593501-UZ3Z AA (1 page)
- 574. 09/24/76 Concrete Curing Log, Placement No. 54050-1 (1 page)
- 575. 11/23/76 Concrete Preplacement Checklist Record, Placement No. 499504-2A-1 (4 pages)

APPENDIX C (Continued)

- 30 -

Re: FOIA-84-455

576. 05/19/82 Construction Installation Records Review and Transmittal, Transmittal No. 1645 (2 pages)
577. 06/18/82 Documentation Cross Reference Sheet, Concrete Placement No. 570-503-30, filed with Placement No. 570-502-23 signed by Leo Vial (1 page)
578. 06/18/82 Documentation Cross Reference Sheet, Concrete Placement No. 570-503-30 filed with Placement No. 570-502-23, signed by Leo Vial (1 page)
579. 06/18/82 Documentation Cross Reference Sheet, Concrete Placement No. 570-503-30A filed with Placement No. 570-502-29, signed by Leo Vial (1 page)
580. 06/18/82 Documentation Cross Reference Sheet, Concrete Placement No. 570-503-30C filed with Placement No. 570-503-30, signed by Leo Vial (1 page)
581. 01/04/84 Ebasco Services, Inc. Quality Assurance Instruction, "Quality Assurance Installation Review Group (QAIRG) (Concrete Structures), QAIRG No. 48-3, QAI No. 9 (3 pages)
582. 01/30/84 Concrete/Grout Package Index/Documentation Guide (10 pages)
583. 09/25/84 LP&L Condition Identification Work Authorization (1 page)
584. Undated Note to Frank Howard and Abe Cochran, LP&L, from Steve Gordy, LP&L, regarding lack of copies of cement grab sample reports (1 page)
585. Undated List entitled "Missing Placement Package Da" (1 page)
586. Undated "Response to LP&L Site Audit Report No. W35-76-8" (3 pages)
587. Undated Charts of discrepancies and corrective actions for 28 placement numbers, each chart dated by date of placement (28 pages)

EBASCO Services, Inc. - Miscellaneous Documents

- 588. 05/24/83 W3-2462 Radiography Summary Report (1 page).
- 589. 01/12/84 List of 88 Tensile Test Forms with Duplicate Copies Showing  
Different Signatures, list signed by Sam Horton, EBASCO  
(6 pages).

APPENDIX C (Continued)

- 32 -

Re: FOIA-84-455

EBASCO Services, Incorporated Report

590. "Clam Shell Filter Blanket Test Report" (Missing pages 66, 145, 156, and 157) (244 pages).

APPENDIX C (Continued)

- 33 -

Re: FOIA-84-455

591. EBASCO SERVICES INCORPORATED REPORT, "MAT 10B PLACEMENT REPORT",  
DATED MAY 1976 (86 pages)



APPENDIX C (Continued)

- 34 -

Re: FOIA-84-455

J. A. JONES CONSTRUCTION COMPANY CORRESPONDENCE

592. 06/18/75 QA Program for Phase I Concrete Construction - Waterford 3  
(16 pages)
593. 12/09/75 Purchase Order from J. A. Jones Construction to Southern  
Pump Crete (1 page)
594. 12/17/75 Letter to Ebasco from Jerry P. Leonard, "Louisiana Power & Light  
Q.A. Stop Work Order No. 1," with stated enclosure (9 pages)
595. 12/17/75 Letter to Ebasco from Jerry P. Leonard, "Louisiana Power & Light  
Q.A. Stop Work Order No. 1," (3 pages)
596. 12/17/75 Letter to Mr. Iktidar Hussain from G. A. Greathouse, Subject:  
"Ebasco Quality Assurance Audit of Concrete Pour for  
Placement #6" (2 pages)
597. 12/17/75 Letter to Ebasco from Jerry P. Leonard, "Louisiana Power & Light  
Q. A. Stop Work Order No. 1," (2 pages)
598. 12/18/75 Letter to Ebasco from Jerry P. Leonard, "Louisiana Power & Light  
Q. A. Stop Work Order No. 1," (2 pages)
599. 12/18/75 Letter from Jerry Leonard to Personnel Involved in The Placement  
of Concrete Subject: "Concrete Placement Directives" (1 page)
600. 12/18/75 Letter to Al Prince from Jerry P. Leonard, Subject: "Work Procedure  
W-WP-7 Revising Directive" (1 page)
601. 02/10/76 Letter to Mr. John Whalen from G. A. Greathouse, Subject:  
"Praise of Mr. R. Basham, Field Manager at Waterford SER  
Unit #3 Site" (2 pages)
602. 01/12/82 Letter to George Hill from Kathy Krenzer, Subject: "Cadweld  
Certification of Jane Ogea," w/enclosed certificate (2 pages)

## APPENDIX C (Continued)

- 35 -

Re: FOIA-84-455

J. A. Jones Construction Company - Procedures

603-604. W-SP-1 Cadwelding, 2 sets (Total pages 12)  
605-606. W-SP-2 Disposal of Unused Cadweld Powder, 2 sets (Total pages 5)  
607-612. W-SP-6 Bending and Straightening of Reinforcing Bars Partially Embedded in Concrete and Placing of Bars in Hardened-Concrete, 6 sets (Total pages 23)  
613-619. W-SP-7 Repair and Curing of Concrete Repair for Placement 499S02-10B, 7 sets (Total pages 150)  
620-621. W-SP-8 Backfill Test Fill, 2 sets (Total pages 13)  
622. W-SP-9 Testing Reinforcing Steel Subjected to Cold Rebending, 1 set (Total pages 6)  
623-625. W-SP-13 Repair, Inspection, Documentation and Verification of the Base Mat Foundation Beneath Columns H10A And H11A Lying on Placement 19, 3 sets (Total pages 34)  
626-630. W-SP-16 Repair, Inspection, Documentation, and Verification of Placement 499S03-19, 5 sets (Total pages 33)  
631-633. W-SP-17 Additional Grouting of 499S02-10B, 3 sets (Total pages 31)  
634. W-SP-20 Concrete Core Drilling, 1 set (Total pages 5)  
635-636. W-SITP-2 Clam Shell Filter Blanket Inspection, 2 sets (Total pages 10)  
637-647. W-SITP-4 Reinforcing Steel - Handling, Storage, Installing, Cadwelding and Modification Inspection, 11 sets (Total pages 134)  
648. W-SITP-5 Embedded Items - Handling, Storage and Installation Inspection, 1 set (Total pages 6)  
649-655. W-SITP-7 Inspection of Concrete Placing, Curing, Finishing and Repair, 7 sets, (Total pages 67)  
656-660. W-SITP-8 Waterstop Inspection, 5 sets (Total pages 28)  
661-668. W-SITP-12 Backfill and Compaction Inspection, 8 sets (Total pages 53)  
669. W-SITP-14 Welding Inspection, 1 set (Total pages 14)  
670-671. W-SITP-16 Inspection of Concrete Mud Slab Placing, Curing, Finishing and Repair, 2 sets (Total pages 8)  
672-673. W-WP-2 Clam Shell Filter Blanket Placement, 2 sets (Total pages 10)  
674-677. W-WP-4 Handling, Storage, Installing, Cadwelding and Modification of Reinforcing Steel, 4 sets (Total pages 24)  
678-684. W-WP-7 Concrete Placing, Curing, Finishing and Repairs, 7 sets (Total pages 84)  
685-687. W-WP-8 Handling, Installation, and Field Repair of Waterstops, 3 sets (Total pages 20)  
688. W-WP-12 Backfilling and Compaction, 1 set (Total pages 7)  
689. W-WP-17 Housekeeping, 1 set (Total pages 5)  
690-693. POP-N-300 Control of Engineering Documents, 4 sets (Total pages 57)  
694-700. POP-N-301 Construction Engineering, 7 sets (Total pages 75)  
701. POP-N-605 Indoctrination and Training, 1 set (Total pages 6)  
702-706. POP-N-702 Personnel Training, Qualification and Certification, 5 sets (Total pages 33)  
707-709. POP-N-713 Use of Discrepancy Reports, 3 sets (Total pages 26)

APPENDIX C (Continued)

- 36 - Re: FOIA-84-455

C. A. Jones Construction Co. - Discrepancy Report

710.	DRN-0005	(1 page)
711.	DRN-0006	(1 page)
712.	DRN-0007	(1 page)
713.	DRN-0015	(1 page)
714.	DRN-0016	(1 page)
715.	DRN-0017	(1 page)
716.	DRN-0019	(1 page)
717.	DRN-0020	(1 page)
718.	DRN-0021	(1 page)
719.	DRN-0025	(1 page)
720.	DRN-0026	(1 page)
721.	DRN-0028	(2 pages)
722.	DRN-0029	(1 page)
723.	DRN-0030	(1 page)
724.	DRN-0033	(1 page)
725.	DRN-0038	(1 page)
726.	DRN-0040	(1 page)
727.	DRN-0042	(1 page)
728.	DRN-0043	(1 page)
729.	DRN-0045	(1 page)
730.	DRN-0046	(1 page)
731.	DRN-0047	(2 pages)
732.	DRN-0048	(1 page)
733.	DRN-0049	(3 pages)
734.	DRN-0050	(2 pages)
735.	DRN-0051	(1 page)
736.	DRN-0054	(2 pages)
737.	DRN-0056	(1 page)
738.	DRN-0058	(1 page)
739.	DRN-0059	(1 page)
740.	DRN-0063	(1 page)
741.	DRN-0064	(1 page)
742.	DRN-0065	(1 page)
743.	DRN-0073	(1 page)
744.	DRN-0074	(1 page)
745.	DRN-0075	(1 page)
746.	DRN-0076	(1 page)
747.	DRN-0077	(1 page)
748.	DRN-0081	(1 page)
749.	DRN-0083	(1 page)
750.	DRN-0084	(1 page)
751.	DRN-0095	(1 page)
752.	DRN-443	(8 pages)

Re: FOIA-84-455

753. EXCERPTS FROM HARSTEAD ENGINEERING ASSOCIATED, INC. REPORT,  
WATERFORD III SES ANALYSIS OF CRACKS AND WATER SEEPAGE IN FOUNDATION MAT"  
DATED SEPTEMBER 19, 1983 (106 pages)

Peabody Testing Services, Inc. - Reports

754. 05/10/76 Letter to J. O. Booth, EBASCO Services, Inc., from John W. Tingley, Peabody Testing Services, transmitting report of preliminary results of tests regarding proportioning of concrete, Class AA, using Type II cement (36 pages).
755. 09/20/77 Letter to J. O. Booth, EBASCO Services, Inc., from Garry Warren, Peabody Testing Services, Inc., transmitting report of preliminary results of tests regarding proportioning of concrete, Class AAA, using Type II cement (70 pages).
756. undated Portion of concrete test report by Peabody Testing Services (19 pages).

APPENDIX C (Continued)

- 39 -

Re: FOIA-84-455

NRC-Generated Documents Not in PDR

757. 10/05/83 Memorandum for George Knighton, NRR, from George Lear, NRR, Subject: "Preliminary Assessment of Waterford 3, Concrete Mat Cracking and Water Seepage Issue" (2 pages) with attached note to Darrell Eisenhut, NRR, et al., from Edward S. Christenbury, OELD, Subject: "Waterford 3 Report on Water Seepage and Concrete Cracking" (2 pages)
758. 11/16/83 Memorandum for Darrell Eisenhut, NRR, from John D. Collins, Region IV, subject: "Inspection of Dewatering and Excavation Activities and Construction of the Common Foundation Mat for the Waterford 3 Project" (2 pages)
759. 11/28/83 ASLAB, "NRC Staff's Answer to Joint Intervors' Motions to Reopen Contentions 8/9 and 22" with Attachment 1, letter to R. S. Leddick, LP&L, dated 10/17/83, subject: "Request for Additional Information Concerning Concrete Mat Cracking and Water Seepage Issues at Waterford 3" (4 pages); Attachment 2, letter to George W. Knighton, NRR, from K. W. Cook, LP&L, subject: "Response to NRC Basemat Questions" (9 pages); Attachment 3, Memorandum for Darrell G. Eisenhut, NRR, from John. T. Collins, Region IV, "Inspection of Dewatering and Excavation Activities and Construction of the Common Foundation Mat for the Waterford 3 Project" (2 pages); and "Affidavit of Raman Pichumani," before ASLAB, dated 11/28/83, and "Affadavit of Raymond O. Gonzales, 11 before ASLAB, dated 11/28/83.
760. 02/15/84 Memorandum for Sherwin E. Turk, OELD, from John S. Ma, NRR, Subject: "Waterford 3 Concrete Base Mat" (3 pages)
761. 12/15/84 Memorandum for Sherwin E. Turk, OELD from John S. Ma, NRR, Subject: "Waterford 3 Concrete Base Mat" (3 pages)
762. 04/06/84 Memorandum to file from James H. Wilson, NRR, Subject: "Meeting Summary for LP&L's Presentation of Basemat Adequacy at Waterford 3" (177 pages)
763. 04/27/84 Memorandum for Dennis Crutchfield, NRR, from George Lear, NRR, Subject: "Structural Adequacy and Safety Evaluation of Waterford 3 Base Mat" (48 pages)
764. 05/11/84 Notes by Robert E. Shewmaker, IE, entitled "Bonding Solution Base Mat Shear Waterford" (9 pages)
765. 05/17/84 Memorandum for Waterford 3 Task Force Members from Dennis M. Crutchfield, Manager, WTF, Subject: "Control and Distribution of Waterford 3 Tracking System Document" (3 pages)



# APPENDIX C (Continued)

- 40 -

Re: FOIA-84-455

766. 05/18/84 Memorandum for J. Tapia, Region IV, and H. Wong, IE, from G. Arndt, RES, entitled "R. G. 1.10, Rev. 1, dated 1/2/73" (2 pages)
767. 05/21/84 Memorandum for Dennis Crutchfield, WTF, from L. C. Shao, RES, Subject: "Consultant's Evaluation of Construction Adequacy of Waterford Basemat" (15 pages)
768. 05/31/84 Letter to Joseph I. Giarrusso, President, New Orleans City Counsel, from John T. Collins, Region IV, regarding New Orleans City Counsel resolution to make Waterford findings public (5 pages)
769. 07/26/84 Memorandum to file from Lisamarie Lazo, NRR, Subject: "Summary of July 10, 1984 Meeting" (2 pages)
770. Undated Memorandum for Dennis Crutchfield, WTF, from Richard H. Vollmer, DE, Subject: "Waterford 3 Basemat Evaluation" (45 pages)
771. Undated Notes entitled "Comments on Lear Memo" (4 pages)
772. Undated Notes entitled "Bill Crossman Request" (3 pages)
773. Undated Notes entitled "Addendum to Review of Waterford III Basemat Analysis" (6 pages)
774. Undated Notes entitled "WAT-3 Basemat HQ" (1 page)
775. Undated Briefing notes entitled "Louisiana Power and Light Company Waterford SES Unit 3" (10 pages)
776. Undated Note describing sequence of events surrounding Gambit newspaper article entitled "A Poor Foundation at Waterford III?" (3 pages)
777. Undated Draft description of contract program between NRC and R. A. Muenow and Associates to perform non destructive examination of cracks in the Waterford 3 Basemat (2 pages)



Correspondence of Robert E. Philleo, Consultant, to NRC

778. 05/08/84 Report entitled "Evaluation of Concrete in the Basemat Waterford Unit No. 3" by Robert E. Philleo (7 pages).
779. 05/14/84 Letter to Lawrence C. Shao, RES, from Robert E. Philleo, Subject: "Shear Stress on In-plane Membrane" (2 pages).
780. 05/29/84 Robert E. Philleo, "Comments on Chen Report" (1 page).
781. 05/29/84 Robert E. Philleo, "Comments on Ma Report" (1 page).
782. undated Robert E. Philleo, "Temperature Cracking in Basemat" (2 pages).

Industry Standards Committee Documentation

- 783. 02/22/74 Draft revision of ANSI Standard entitled "Requirements for Auditing of Quality Assurance Programs for Nuclear Power Plants," draft 3, revision 4 (6 pages).
- 784. 10/30/80 Letter to William C. Black, Chairman, Working Group on Reinforcing and Prestressing Systems, from Geza Valentyenyi Subject: "Testing Frequency of Rebar Splices" (1 page).
- 785. 06/17/81 ACI-ASME Working Group on Reinforcing and Prestressing Systems, Minutes of 06/17/81 meeting in New York City (1 page).
- 786. 10/19/84 Letter from Romuald E. Lipinski, NRR, to James Allen, Chairman, Joint Committee ASME/ACI-359, urging committee to reconsider its decision not to revise code, although code revision was recommended by Geza Valentyenyi (2 pages).

APPENDIX D

Re: FOIA-84-455

DOCUMENTS SUBJECT TO FOIA-455

WHICH ARE ALREADY IN PDR

1. 07/12/83 Note to M. Peranich, NRC, from R. Shewmaker, NRC, Subject: "Additional Information", included in FOIA-83-508 (Lyon) (ANO 8312130039) (6 pages)
2. 12/12/83 ASLAB, "Amended and Supplemental Motion to Reopen Contention 22" by Carole H. Burstein, Co-counsel for Joint Intervenors (ANO 831216025) ADOCK 50-382G (13 pages)
3. 03/21/84 Memorandum for George W. Knighton, NRR, from James H. Wilson, NRR, Subject: "Louisiana Power and Light Company Meeting on March 26, 1984" (ANO 8404110265) ADOCK 50-382A (6 pages)
4. 05/08/84 Memorandum to file from Dennis M. Crutchfield, NRR, Subject: "Memorandum from G. Lear to D. Crutchfield" (ANO 8405220267) ADOCK 50-382A (2 pages)
5. 05/08/84 Memorandum to file from Dennis M. Crutchfield, NRR, Subject: "Memorandum from G. Lear to D. Crutchfield" (ANO 8405220267) ADOCK 50-382A (50 pages)
6. 07/25/84 ASLAB, "NRC Staff's Motion for Extension of Time" by Sherwin E. Turk, Deputy Assistant Chief Hearing Counsel (ANO 8407270176) ADOCK 50-382G (2 pages) with attached "Affidavit of Dennis M. Crutchfield" (ANO 8407270269) ADOCK 50-382G (47 pages)

# GOVERNMENT ACCOUNTABILITY PROJECT

Institute for Policy Studies

1901 Que Street, N.W., Washington, D.C. 20009

(202) 234-9382

## Freedom of Information Act Request

Director  
Office of Administration  
Nuclear Regulatory Commission  
Washington, D.C. 20555

May 31, 1984

FREEDOM OF INFORMATION  
ACT REQUEST

FOIA-84-455

Rec'd 6-5-84

To Whom It May Concern:

Pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. §552, the Government Accountability Project (GAP) of the Institute for Policy Studies requests copies of any and all agency records and information, including but not limited to notes, letters, memoranda, drafts, minutes, diaries, logs, calendars, tapes, transcripts, summaries, interview reports, procedures, instructions, engineering analyses, drawings, files, graphs, charts, maps, photographs, agreements, handwritten notes, studies, data sheets, notebooks, books, telephone messages, computations, voice recordings, computer run-offs, any other data compilations, interim and/or final reports, status reports, and any and all other records relevant to and/or generated in connection with

(1) Any report or study of the basemat cracking and water leakage and seepage problems at the Waterford III plant conducted and issued subsequent to the formation of the Special Investigation Team, including such a report or study prepared without the input of the team by either contractors or other members of the staff.

This request includes all agency records as defined in 10 C.F.R. §9.3a(b) and the NRC Manual, Appendix 0211, Parts 1.A.2 and A.3 (approved October 8, 1980) whether they currently exist in the NRC official, "working," investigative or other files, or at any other location, including private residences.

If any records as defined in 10 C.F.R. §9.3a(b) and the NRC Manual, supra, and covered by this request have been destroyed and/or removed after this request, please provide all surrounding records, including but not limited to a list of all records which have been or are destroyed and/or removed, a description of the action(s) taken relevant to, generated in connection with, and/or issued in order to implement the action(s).

GAP requests that fees be waived, because "finding the information can be considered as primarily benefitting the general public," 5 U.S.C. §552(a)(4)(a). GAP is a non-profit, nonpartisan public interest organization concerned with honest and open government. Through public outreach, the Project promotes whistleblowers as agents

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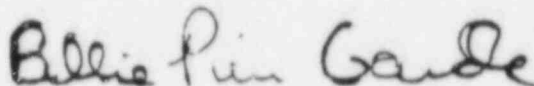
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of government accountability. Through its Citizens Clinic, GAP offers assistance to local public interest and citizens groups seeking to ensure the health and safety of their communities. The Citizens Clinic is currently assisting several citizens groups, local governments and intervenors in the mid-Michigan area concerning the construction of the Midland plant.

We are requesting the above information as part of an ongoing monitoring project on the adequacy of the NRC's efforts to protect public safety and health at nuclear power plants.

For any documents or portions that you deny due to a specific FOIA exemption, please provide an index itemizing and describing the documents or portions of documents withheld. The index should provide a detailed justification of your grounds for claiming each exemption, explaining why each exemption is relevant to the document or portion of the document withheld. This index is required under Vaughn v. Rosen (I), 484 F.2d 820 (D.C.Cir. 1973), cert. denied, 415 U.S. 977 (1974).

We look forward to your response to this request within ten days.



Billie Pirner Garde  
Citizens Clinic Director



LOUISIANA  
POWER & LIGHT

317 BARONNE STREET  
NEW ORLEANS, LOUISIANA 70160

P.O. BOX 80340

• 304/595-2204

September 29, 1983

J.M. CAIN  
President and  
Chief Executive Officer

W3P83-3289

Richard C. DeYoung, Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

SUBJECT: Waterford 3 SES  
Docket No. 50-382

REFERENCE: NRC Letter Dated August 4, 1983

Dear Mr. DeYoung:

Enclosed for your review is the report prepared by LP&L's Independent Safety Engineering Group (ISEG) covering the action plan outlined in our submittal of September 1, 1983.

I would like to point out that the Harstead Engineering Associates (HEA) report is their initial report covering an assessment of the concrete cracking and water seepage problems. A second report covering the design adequacy of the basemat is scheduled to be issued by HEA on October 15, 1983. The delay in issuing this section of the report is due to HEA performing independent calculations on the basemat design.

The LP&L Safety Review Committee (SRC) has reviewed the approach taken by ISEG for addressing the concerns of your letter of August 4, 1983; and agrees that the approach represents a reasonable method to address the concerns. In making this judgment, the SRC has reviewed the enclosed report and discussed it with members of ISEG.

As you will recall from our meeting of August 25, 1983, you suggested that LP&L look at as much as possible in addressing the issues contained in your letter of August 4, 1983. The ISEG action plan submitted to you on September 1, 1983 was broader in scope than we had proposed in the meeting. In addition to the action plan, ISEG walked down four safety related systems, provided an evaluation of the American Bridge issue, and increased the LP&L Q.A. system status reviews by two.

Boni  
1/10  
Limited  
Dist

FREEDOM OF INFORMATION  
ACT REQUEST

84-455

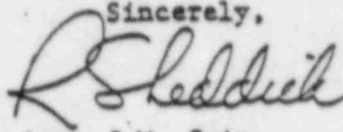
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Richard C. DeYoung  
W3P83-3289

Page 2

Please call if you wish to discuss the report, or if you have any questions.

Sincerely,

  
for J.M. Cain

JMC/RFB/pp

Enclosure

cc: E. Blake, W.M. Stevenson, J.T. Collins, G.L. Constable



WATERFORD 3 SES

I think this is ↑

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 INDEPENDENT SAFETY  
ENGINEERING GROUP
 

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## ISEG SPECIAL REPORT

## "ISEG REVIEW OF NRC CONCERNS"

Prepared by Antonia M. CarterDate 9/29/83J. J. J. J. J.Date 9/29/83Richard D. WolfeDate 9/29/83John A. LiffDate 9/29/83Robert B. LiffDate 9/29/83Robert B. LiffDate 9/29/83Michael W. AlworthDate 9/29/83Reviewed by J. B. W. L. J.Date 9/29/83

OSRS Supervisor

Approved by J. J. J. J. J.Date 9/29/83

Nuclear Services Manager

83-0044565

5-100

## INTRODUCTION AND SUMMARY

ISEG performed reviews and evaluations as required on each of the five issues contained in the action plan. Additional Q.A. areas were reviewed that were not required by the action plan. These additional areas of review included two additional LP&L Q.A. systems status reviews, an evaluation of the American Bridge issue, and a walk down of four safety related systems. Details and conclusions are included in the content of the report.

Approximately 520 man-hours were expended in the preparation of this report.

ISEG found no significant deficiencies in LP&L's Q.A. program. The Q.A. program is functioning as intended, and LP&L is aware of all programmatic aspects.

I. Issue - Deficiencies in four systems turned over to LP&L.

A. Review

ISEG reviewed the following documentation:

- 1) USNRC letter 50-382/EA 82-109, Notice of Violation,
- 2) LP&L's reply (W3I83-0001) and summary report (W3I83-0115),
- 3) The Associated Audit Report for the Quality Assurance/Engineering Task Force Review of Installed Structures/Components (LP&L Audit Report W3S-83-3),
- 4) Related NRC inspection report 50-382/82-14,
- 5) LP&L Quality Procedure 19.1,
- 6) Related QA Site Audit Reports.

The results of LP&L QA status review concerning the sixty-seven (67) of eighty-five (85) safety related systems turned over to LP&L startup and the associated quality procedure were analyzed and reviewed.

ISEG reviewed the four safety related systems transferred to the plant staff before September 1, 1983 and an additional system transferred during September 1983. Additional procedures were reviewed as necessary.

ISEG also reviewed documentation associated with American Bridge Company Quality Assurance Task Force Review and subsequent actions.

### 3. Results

In response to the NRC Notice of Violation, LP&L developed a task force action plan for review of quality records and verification of installation for selected activities performed by contractors who performed safety related activities prior to June 1, 1982. Task Force Installation Verification (Quality Procedure 19.1) was written to implement the provisions of the action plan and to provide specific details for verification of the physical configuration of structures and components.

LP&L's summary report to the NRC stated that the adequacy of the areas examined was confirmed, and the physical verification indicated that as-built configurations conformed to design drawings and documents. The deficiencies identified were followed up by two re-audits by LP&L Construction QA. Three items remain open and are being pursued by QA. A third re-audit is anticipated within the next month to closeout these remaining open items.

ISEG reviewed the American Bridge audits and background. American Bridge (A-B) was one of the contractors selected for review in the Task Force Audit. LP&L started their task force review of A-B on February 7, 1983 and completed the audit on March 30, 1983.

The Task Force review was constrained due to the upcoming hot functional testing and a concurrent review by Ebasco Quality Assurance Installation Review Group (QAIRG). Non-Conformance Reports (NCR's) generated by Ebasco's review were utilized as an indication of problem areas. The Task Force Review centered primarily on a documentation review with a physical inspection on A490 high strength bolting used on the steam generator framing. The Task Force Audit did not pursue physical verification of American Bridge welding since welding problems were being noted and addressed by Ebasco.

The Ebasco QAIRG review brought to light problems with American Bridge concerning welding deficiencies in the Reactor Containment Building (Potentially Reportable Deficiency PRD 106 on 3/11/83) and the Reactor Auxiliary Building (PRD 111 on 3/29/83). PRD 106 was upgraded to a Significant Construction Deficiency (SCD 73) on 4/11/83. PRD 111 was upgraded to SCD 78 on 4/28/83. Both SCD's were incorporated into SCD 78 since it was the same contractor and problem.

The Task Force Audit Report related to American Bridge did not indicate the awareness of any welding deficiencies. The summary of the report on American Bridge stated "the physical walkdown of the selected area of review indicates that engineered drawings reflect the as-built configuration with a few exceptions being noted in audit findings." LP&L was aware of the possible welding deficiencies and had addressed the problem through normal channels. Since SCD 78 had been reported, LP&L felt that it would be unnecessary to restate this problem. Additionally, at the time the task force report was prepared, a determination had not been made as to the extent of the problem. Accordingly, this information was not reflected in LP&L's report to the NRC.

LP&L QA has determined that Ebasco has adequately responded to the Task Audit Findings and the A-B items will be addressed in the response to SCD 78.

Corrective actions included a comprehensive reinspection program that is complete. Rework which resulted from the inspection is almost complete and the welding portion is scheduled to be completed by mid-October. A response to SCD 78 is due to the NRC by 10/28/83.

ISEG, as a result of its review including audits, reaudits, and personnel interviews concludes that the A-B Problem has been adequately addressed and that the proper corrective actions have been instituted.

In conclusion, the actions associated with the implementation of the Task Force Audit Report appear to be in order and adequate.

The LP&L Construction QA system status review was performed on a system basis (67 of 85 systems). The activities of each contractor performing safety related work was examined. The LP&L QA status review consisted of a review of documentation and a system walkdown. At least 10% of the controlling documents for each contractor involved was reviewed. The LP&L QA physical installation inspections were random for each system. ISEG also performed a system walkdown on portions of four randomly selected safety related systems. The directions of the system turnover procedure and the applicable system drawings were used in performing these inspections. Specific items observed included the following:

- 1) correct weld numbers and location
- 2) correct hanger and support location and identification
- 3) general appearance of hangers and components (bolts, pins, orifice plates, etc.)
- 4) correct location of branch lines, valves, strainers, orifices, drains and vents
- 5) general configuration of the system per the drawings.

This additional review revealed no deficiencies.



Since the initial four systems' rejection by LP&L Construction QA, approximately thirteen systems have been rejected by QA. The deficiencies identified by QA involve documentation related problems and isolated minor hardware installation errors.

Four of seven systems transferred to the plant staff before September 1, 1983 have been audited by Operations QA. The following systems and number of findings were noted:

<u>System</u>	<u>Audit Date</u>	<u>No. of Findings</u>
2A-125 Volt DC Safety	Dec. 82	7
8A-208/120 Volt Safety	Jan. 83	2
69-Vibration & Loose	June 83	2
Parts Monitoring		"
17-Seismic Monitoring	July 83	0

These findings involved minor documentation errors. The QA program procedures for audits and auditor training were written in compliance to requirements of the FSAR. These procedures were in place before the auditing practices were employed on safety system audits.

The QA auditing process included the following steps.

- 1) A selection of qualified auditors, lead auditor, and technical advisor took place. -

- 2) A pre-audit meeting was held to determine the scope of the audit.
- 3) Check sheets were prepared to be used in performing the audit. These check sheets included requirements which have been committed by LP&L as listed in the FSAR, Reg. Guides, applicable ANSI Standards, Technical Specifications, and other documents.
- 4) The audit was performed and the findings were compiled.
- 5) A post audit meeting was held with personnel responsible for system transfer.
- 6) The audit report was finalized and issued.
- 7) The audit findings were tracked and closed out.

ISEG's review indicated that Waterford 3 Operations QA personnel performed audits with strict compliance to the approved auditing procedure. It is concluded that the number of deficiencies discovered has been decreasing as operations personnel gain experience in the system turnover process. This trend is further substantiated by a recent audit performed after September 1, 1983 which resulted in no findings.

In summary, other deficiencies have been identified during the course of construction by LP&L QA. Some of these deficiencies involve a breakdown in a QA program as defined in 10CFR50.55(e). However, ISEG does not consider that these deficiencies involve the same type of breakdown as those found by LP&L QA concerning the first four systems.

II. Issue - LP&L did not know whether its QA program was being implemented.

A. Review

ISEG reviewed approximately 1020 documents which included the following:

- 1) documentation associated with audits conducted by LP&L of CE, Ebasco, and other contractors from 1974 to 1977,
- 2) documentation associated with site audits during 1974-1977,
- 3) documentation associated with other audits the results of which were reported to LP&L 1974-1977.

The Torrey Pines Technology (TPT) Report was reviewed and in particular the conclusion regarding Task A of the report as it relates to quality assurance.

B. Results

The 1974-1977 audits and surveillances were examined for conformance to the in place programmatic requirements, the management of corrective action recommendations, the management of the auditing process, and the level of management involved in the auditing process. The audit and surveillance matrix included

as attachment II-1 displays the considerable amount of Quality Assurance documents within the time frame of interest.

The programmatic requirements from 1974 to 1977 are shown as attachment II-2. This group of commitments, approved by the Atomic Energy Commission, was commonly known as the "Green Book". LP&L included AEC Regulatory Guides (AEC position on ANSI standards) as a further commitment. Since the LP&L QA requirements encompassed those of all supplying organizations, corporate QA and field QA conducted a program audit to assure that supply organizations were aligned with the program requirements. The LP&L auditing process was carried out according to documented procedures and accepted standards. Requests for corrective action were from the executive (Vice President) level of LP&L management. This resulted in effective and timely reply to deficient areas identified in audits. Reaudit was performed in areas where the supply organization response to corrective action was deemed insufficient. As a check on internal QA effectiveness, joint audits of the LP&L QA program were conducted by other members of the Middle South System. Again, corrective actions were performed and transmittals were routed through appropriate levels of management.

LP&L delegated a portion of its auditing and surveillance responsibilities to Ebasco QA while maintaining overall authority of the program. It should be noted that during this time frame

Ebasco generated the majority of QA documents. When these were examined by ISEG certain questions and corrective actions were noted concerning Ebasco's QA activities.

- (1) During the time in question, Ebasco transmitted requests for corrective action from the QA Supervisor level. This met Ebasco's program requirements and was usually effective. It should be noted that after this time period Ebasco installed a manager of QA onsite primarily due to a request from LP&L.
- (2) For Ebasco surveillances during 1974 and for Ebasco site contractor audits during 1974 and 1975, Ebasco's program did not require distribution of the reports to LP&L if no findings were noted. During this period, LP&L's QA audits sampled Ebasco audits including those without findings. Since this time period, LP&L QA has received all Ebasco QA reports. This was a required corrective action.
- (3) Ebasco surveillances with findings were closed (i.e., acceptable corrective action performed) without supporting documentation during 1975. On the surveillance index, "Closed" was written and no explanation offered. LP&L QA corrected this situation in 1976 by requiring supporting documentation be available for "Closed" findings.



(4) Some Ebasco surveillance findings in 1976 for routine items (such as a tag missing from a piece of stored equipment) were not closed until 1980. Closure was accomplished by an LP&L audit of Ebasco QA activities. The LP&L QA program was able to go in and find minor Ebasco QA deficiencies that had been essentially forgotten, point them out, and correct them even though some time had passed. Our review indicates that this variation in the program did not have an adverse effect on quality.

A large area of auditing during the 1974-1975 time frame involved Ebasco corporate Quality Assurance. Areas investigated were NRC inspections of Ebasco corporate QA, Ebasco QA management Audits and Ebasco vendor audits. The corrective actions initiated by NRC inspections of Ebasco QA were answered under the direction of the Ebasco Vice President-Nuclear and were appropriately answered in a timely fashion.

In the area of management audits, Ebasco's internal check of its QA program effectiveness, actions on findings were adequately resolved on an upper management level and appropriate corrective actions were performed.

Ebasco corporate QA had a strong program of vendor auditing. Ebasco carried this out through the procedures generated out of its NRC approved QA Topical Report ETR-1001. Vendors who would not respond to corrective actions were informed that they would not appear on the approved vendor list.

Re-audit was conducted to assure that the corrective actions were performed and to assure vendor programs were being maintained.

Continuous monitoring of Ebasco site QA by LP&L and a strong Ebasco corporate QA program resulted in a positive improvement in Ebasco's site program.

In summary, LP&L's QA program has displayed sufficient oversight of supplier QA and no programmatic deficiencies have been noted. The auditing process has been properly carried out and brought to management's attention. LP&L QA has corrected itself and its suppliers when required, and it has met or exceeded the base line requirements of quality assurance.

Task A in the IPT report was a design procedure review to determine if the system design control processes used by Ebasco, Dravo, Bergen-Patterson, and Combustion Engineering (CE) were adequate.

IPT was to determine the portions of the Emergency Feedwater System (EFS) constructed by each organization, whether the proper design control procedures were in place, and whether these procedures complied to appropriate design requirements. The following method was employed to carry out this task:



- 1) A written procedure was developed to use in performing the task.
- 2) A design control process description for construction of the EFS was prepared.
- 3) A comparison was made of CE procedures used for Waterford 3 to those used for either the San Onofre or Palo Verde plants (which were previously reviewed by TPT).
- 4) Procedures and manuals used for EFS construction were obtained from CE, LP&L, Dravo, Bergen-Patterson, and Ebasco for evaluation.
- 5) Check sheets that included the requirements for procedure and manual content were developed. These check sheets were used during the review of each document.
- 6) EFS design work was evaluated for conformance to commitments in the PSAR as amended.
- 7) Design control procedures applicable in time periods other than the then current PSAR revision were reviewed for compliance to the then current PSAR commitments.

The efforts by TPT in accomplishing Task A fulfilled the objectives of the task and the method in performing the task was appropriate. No

potential findings were issued by TPT during the review performed on this task. Based on the review performed in Task A, it concluded that LP&L, Ebasco, CE, and Bergen-Patterson each had control procedures in place during the design of the Emergency Feedwater System which satisfied the commitments in the PSAR.

III. Issue - LP&L did not take appropriate action on independent QA consultants report.

A. Review

The 1979 Management Analysis Company (MAC) report, recommendations, corrective actions taken since the report was issued, and associated documentation were reviewed. Appropriate personnel were also interviewed. The purpose of the 1979 MAC study which involved 30 mandays of work was to recommend, advise, and report areas of construction monitoring and supervision that LP&L staff members should be devoting time to at that time and in the future.

B. Results

The 1979 MAC report is included as attachment III-1.

The following are MAC recommendations followed by the LP&L response or action as found by this review.

1. LP&L should acquire additional manpower in the QA area in order to:
  - a. audit critical activities such as cable pulling, welding, hanger/snubber work, etc.

- b. provide more coverage in the field
- c. ensure that contractor QA records are in auditable and "buyable" order.

Response: LP&L has increased its authorized QA staffing from a level of 10 at the time of the MAC report to the present level of 28. LP&L QA also has 16 contract employees currently on its staff.

Since the MAC report was issued LP&L has conducted 115 audits and 105 surveillances (as of 8/1/83) of site contractors (including EBASCO) including the following critical activities identified in the report.

	<u>Audits</u>	<u>Surveillances</u>
Cable/Cable Pulling	7	9
Welding	7	2
Piping/Hanger/Snubber Installation	2	20
QA Records	8	-

LP&L has established a surveillance group within Ebasco to follow in-process work.

LP&L QA reviews in detail approximately 10% of the turnover documentation.

LP&L has set up a task force to provide a limited scope audit of contractor activities prior to the normal turnover status review cycle. This audit has been geared as much as possible to the physical verification of equipment in accordance with design drawings.

2. LP&L should authorize Ebasco to make routine purchases within a certain limit or obtain additional personnel to assist the Project Coordination group.

Response: In accordance with project procedures in existence during the MAC study period, Ebasco was already authorized to purchase permanent plant items for ongoing construction activities. The LP&L project coordinator group continued to authorize all Ebasco purchases for temporary items (i.e., office furniture, test equipment, supplies, etc.). The Project Coordination Group staff was increased to assist in these approvals.

3. LP&L should add contract administration expertise to the Project Coordination group.
  - a. Reduce contract administration work being done by the engineers in this group.

Response: LP&L has provided additional cost control/contract administration personnel.

4. LP&L Project Coordination and QA groups should stagger their workday schedule to:

- a. Enhance the construction monitoring credibility and visibility of LP&L.
- b. Insure continuity of work accomplishment.

Response: LP&L considers that staggering the workday would not significantly enhance either the quality or quantity of work accomplished.

5. LP&L should evaluate the manpower need in Ebasco's Contract Administration and Planning Scheduling Sections.

Response: LP&L monitors the Ebasco site organization and evaluates each Ebasco request for additional manpower. LP&L established procedures to require LP&L approval for all personnel additions for Ebasco.

6. LP&L should ascertain if Ebasco code can be used on future projects.

Response: The planning and scheduling computer code was developed by Ebasco for the Waterford 3 startup program and was utilized from 1978 to 1981. In 1981, LP&L made the decision to abandon the Ebasco program in favor of the Middle South Services

Project 2 system which is currently in use. The Project 2 system will also be used in outage planning and scheduling once the startup program is completed.

7. LP&L should gain a better understanding of Ebasco's work which reflects project performance in the area of planning, scheduling, productivity, performance, percent complete, variance, etc.

Response: LP&L has added additional personnel and has improved its understanding of Ebasco's production work.

- 8-9. LP&L should have a comprehensive understanding of the positions and strategy taken by Ebasco and contractors and the inputs utilized to develop these. LP&L should closely monitor Ebasco and contractors in design changes, resolutions of interference, and verification of total plant design completion.

Response: LP&L has increased its Waterford 3 project staff. LP&L has located much of the additional engineering manpower at the Waterford 3 site to ensure a proper understanding of the positions and strategies of Ebasco and to increase LP&L involvement in engineering decisions. Additional LP&L manpower has been devoted to reviewing the as-built system and to verify the total plant design completion.

10. LP&L should authorize all personnel additions for Ebasco, particularly for Ebasco Site Support Engineering.



Response: LP&L has established procedures requiring LP&L approval for all personnel additions for Ebasco.

- 11-12. An LP&L electrical engineer should become totally immersed in cabling and cable pulling. Cable pulling should be monitored by LP&L whenever it is in progress.

Response: LP&L does not concur with the MAC recommendation. Ebasco and LP&L audit and monitor subcontractors involved in cable pulling, and LP&L audits Ebasco's QA cable pulling program.

- 13-14. LP&L should ascertain the reason for pipe and pipe associated delays and lay the basis for legal delay-of-project completion claims.

Response: The MAC report did not specifically identify pipes awaiting work. An effort to identify the items prompting MAC's recommendations was unsuccessful. LP&L is continuing its efforts to determine the reason for construction delays and to institute delay claims where appropriate.

15. LP&L QA and Project Coordination should monitor and LP&L Engineering should resolve problems associated with:

- a. Mechanical installation - hangers, snubbers, embed, Class 1 piping, etc.
- b. Welding

- c. Tying onto existing rebar
- d. Cable pulling

Response: As reported in the responses to recommendations 1, 8 and 9, LP&L has increased its support staff at the Waterford site. The regular audits and surveillances continue to be conducted by LP&L and engineering involvement has been increased.

16. LP&L should evaluate spare parts status.

Response: LP&L is continuing to monitor and audit spare parts procurement. LP&L contracted with Stone and Webster Engineering Corporation and with Burns and Roe to assist in the evaluation and management of the spare parts program.

17. It would be beneficial for LP&L Project Coordination and LP&L QA to maintain physical separation at the site.

Response: The various groups are stationed at several different locations where they can best perform their function.

18. LP&L should strive to have more of the permanent Waterford 3 staff actively participating in startup.

Response: LP&L instituted an aggressive program to actively involve permanent Waterford 3 personnel in startup functions, e.g. hot functional tests, system turnover, etc.

19. LP&L should confirm that a reasonable return is being realized for the dollars being spent for startup consultants.

Response: LP&L continuously reviews utilization and cost of consultants.

- 20-21. The LP&L Waterford 3 Project Manager should consider establishing an office at the site and should become more conversant with problems from a participation-in-site-activities standpoint. The LP&L Waterford 3 Project Manager should have a higher level of approval authority and should be provided the authority to approve expenditures that have been budgeted to that of the cognizant executive.

Response: The Waterford 3 project staff has been extensively reorganized several times since the 1979 MAC report. At present, the Senior Vice-President-Nuclear Operations is located on site resulting in Senior Managers becoming more conversant with problems from a participation-in-site-activities standpoint. He has appropriate fiscal authority.

22. Participation in public relations activities by the Waterford 3 Project Manager and Engineering Manager should be reduced.

Response: Senior Nuclear Managers do not routinely participate in public relations activities.

It was found as a result of this review that LP&L has taken appropriate corrective actions concerning MAC's recommendations. It should be noted that the MAC report dealt minimally with QA issues. These were addressed by LP&L.

#### IV. Issue - Errors in design assumptions by Ebasco.

##### A. Review

Harstead Engineering Associates (HEA) is providing an independent review of the design adequacy of the basemat. To date, LP&L has received HEA Report No. 8304-1 "Waterford III SES Analysis of Cracks and Water Seepage in Foundation Mat". This report was reviewed for information. This initial report dealt with concrete cracks and water seepage problems. An additional Harstead report will cover the design adequacy of the basemat.

##### B. Results

A copy of the Harstead report is included as attachment IV-1. This report concludes that no evidence was found of any process which has been or could be detrimental to the structural integrity of the foundation mat. Results concerning the design adequacy of the foundation mat is due to be issued by HEA on October 15, 1983.

LP&L will develop a program to implement the recommendation noted in Sections 8.4 and 10.1 of the initial report.

V. Issue - LP&L 1974 Audit of CE found that CE was not in compliance with LP&L's "new" QA program requirements. Ebasco 1976 audit of CE identified problems with CE compliance with LP&L's "new" QA requirements for records.

A. Review

ISEG reviewed documentation associated with the LP&L 1974 audit and the Ebasco 1976 audit of CE for programmatic requirements. ISEG also reviewed the LP&L/CE contractual dispute as it relates to Quality Assurance and the Gambier articles. Approximately seventy-five (75) documents were reviewed.

B. Results

Copies of the 1974 and 1976 audits of CE described above are attachments V-1 and V-2 respectively.

The LP&L 1974 audit findings were addressed by CE and the findings were closed by a re-audit on December 1, 1975. The Ebasco 1976 audit findings concerned CE Chattanooga storage facility for QA records. Our review indicates that CE replied to the 1976 findings on April 12, 1977. The 1976 findings, however, were not formally re-audited at a later date by Ebasco. LP&L conducted an audit of CE's Chattanooga facility during May 5-7, 1981 for collection, storage and maintenance of QA records and had no findings.

Also, during the week of September 26-30, 1983, LP&L QA conducted an audit of the CE Chattanooga facility. This included a re-audit of the types of findings identified in the December 1976 audit, an audit of the physical condition of LP&L's records, and an overall audit of the records management system. LP&L QA considers the CE Chattanooga records management system and the present physical condition of the LP&L records to be satisfactory.

The CE Quality Assurance Manual was updated from the requirements of 10CFR50 Appendix B in 1974 to include recommendations of Revision 0 and Revision 1 of the Atomic Energy Commission WASH-1283 "Gray Book" and American National Standards Institute (ANSI) standards. Since the time that LP&L committed in 1974 to implement the Regulatory Guides and ANSI Standards listed in PSAR Amendment 44, sixteen (16) QA audits of CE have been performed by LP&L/Ebasco for compliance. It is through these audits that LP&L/Ebasco ensured that the QA program covered LP&L PSAR commitments and was implemented by CE.

A letter from CE to Ebasco dated November 10, 1976 states that CE followed 10CFR50 Appendix B, ANSI 45.2-1971, and the "Gray Book" Revision 0 and Revision 1 for Waterford 3 equipment. Also in a May 31, 1977 CE to Ebasco letter, CE states that it has proceeded in good faith to perform the engineering, purchase and manufacture of equipment for Waterford 3 in accordance with



quality requirements in excess of those in the contract, as LP&L had committed to these increased requirements in the PSAR.

In conclusion, the CE QA program met LP&L PSAR (Amendment 44) commitments and there are no program deficiencies as a result of this review. The question was not QA program implementation, but financial responsibility for that program. It was a case of contract "hardball" as CE believed the increased QA costs were not covered under the contract and LP&L believed that they were. This question was resolved in 1978 by a formal change to the contract with CE.



## OA COMMITMENTS

Regulatory Guide 1.37 3-16-73  
Regulatory Guide 1.38 3-16-73  
Regulatory Guide 1.39 3-16-73  
Regulatory Guide 1.54 6-73  
Regulatory Guide 1.58 8-73  
Regulatory Guide 1.74 2-74

### OUTLINE OF OA GUIDANCE RELATED TO THE CONSTRUCTION PHASE (COMMITMENT)

Appendix "B" to 10CFR50

Section 50.55a of 10CFR50

Safety Guide 28 6-7-72

Safety Guide 30 8-11-72

ANSI N45.2.5, Draft 3, R1, 1-74

ANSI N45.2.6, 1-25-73

ANSI N45.2.8, Draft 3, R3, 4-74

ANSI N45.2.9, Draft 11, Rev. 0, 1-17-73

ANSI N45.2.9, Draft 15\*, Rev. 0, 4-3-74

\*(Not Committed to Draft 15)

ANSI N45.2.12, Draft 3, Rev. 4, 2-22-74

ANSI N45.2.13, Draft 2, Rev. 4, 4-74

Regulatory Guide 1.70.xxx, Draft 2, 4-25-74

Comments and Guidance (N45.2.5 and N45.2.13)

ANSI N101.2, 5-30-72

ANSI N101.4, 11-28-72

ANSI N45.2.1, 2-26-73

ANSI N45.2.3, 3-15-73

Management Analysis Company  
11100 Roselle St., San Diego, CA 92121  
714-432-1391

July 31, 1979

MAC-GNB-1327



Mr. Don Aswell  
Louisiana Power & Light  
142 Delaronde  
New Orleans, LA

Dear Don:

Enclosed is the draft report of MAC's study of LP&L's construction monitoring activities of the LP&L Waterford 3 project.

MAC recognizes the difficulty in providing or maintaining appropriately qualified nuclear power plant construction and startup personnel. However, the provision of this expertise now will save future LP&L Waterford 3 construction dollars far and above the current costs of such expertise. An electrical engineer dedicated to cable pulling should be added to site staff.

MAC feels that presence in the field really saves the owner's dollars in the long run. MAC feels it is mandatory for LP&L to develop a better understanding of the numbers and inputs generated by Ebasco which impacts and reflects in the areas of planning, scheduling, productivity, performance, and percent completion variance. LP&L needs to assure it is getting maximum return for minimum dollars spent - assurance of this is possible by providing planning/scheduling/controls expertise.

LP&L should closely monitor:

- Mechanical installation concentrating on hangers, snubbers, embeds and Class I piping installations.
- Welding, especially of Class I installations.
- Tying into existing rebar.
- Cable pulling.

Please contact me or Ron Stinson for discussion or clarification of items herein.

Best regards,

A handwritten signature in cursive script, appearing to read "George N. Brown".

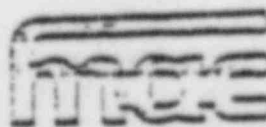
George N. Brown

GNB:kr  
enclosure

LOUISIANA POWER & LIGHT - WATERFORD 3  
CONSTRUCTION MONITORING

CONFIDENTIAL DRAFT

July 21, 1979



MANAGEMENT ANALYSIS COMPANY  
11700 ROSELLE STREET  
SAN DIEGO, CALIFORNIA 92121

## INTRODUCTION

Louisiana Power & Light Company (LP&L) retained Management Analysis Company (MAC) to perform a thirty-day study of LP&L's monitoring of construction of their Waterford 3 Nuclear Plant. The purpose of the study was to recommend, advise, and report areas of construction monitoring and supervision that LP&L staff members should be devoting time to now and in the future.

In accomplishing this study, MAC met with and interviewed LP&L Waterford 3 construction personnel to discuss and assess their duties in relation to work being done, work to be done, schedule, manloading, organization and other related areas, and to evaluate the current state of construction of the Waterford 3 Project. Attachment 1 lists LP&L site personnel interviewed and Attachment 2 lists EBASCO and Contractor personnel with whom brief discussions were held. These brief discussions occurred when personnel were encountered in the halls, in meeting rooms and during site inspections - however, no formal meetings or interviews were held per LP&L instructions attendant to this study.

MAC attended daily and weekly site meetings routinely held among LP&L, EBASCO and contractor personnel and made inspections and tours of the site to observe activities in process and view construction completed to date.

After careful analysis, assessment and review of these discussions, interviews, meetings and site inspections and tours and factoring MAC's experience with other nuclear construction projects into the LP&L Waterford 3 Project, MAC hereby submits the following observations and recommendations.

## OBSERVATIONS & RECOMMENDATIONS

1. In MAC's opinion, as an aftermath of Three Mile Island, the NRC will significantly increase the owner technical staffing requirements prior to issuance of any new operating licenses. As indicated in MAC's diagnostic two years ago, LP&L has an extremely lean technical staff. LP&L is monitoring the construction of the Waterford 3 Nuclear Project with four engineers and one technician.

MAC is not aware of any other nuclear project in this country wherein construction is being monitored by few as owner individuals. The personnel comprising the Project Coordination and QA groups for LP&L at the Waterford 3 site are hardworking, dedicated and loyal individuals. In spite of these traits, these personnel cannot, in MAC's opinion, adequately cover those facets of construction monitoring that should be covered to ensure LP&L is receiving appropriate performance for the dollars being expended. Further LP&L is missing an opportunity to have key technical personnel become familiar with the physical plant.

The individuals in the Project Coordination group and the QA group work closely with each other, cooperate with each other and essentially look out for each other. The QA group overall is strong in MAC's opinion, but few in number, and it appears by and large to be doing a satisfactory job in the areas it is able to effectively cover. Since the work the QA group is now doing should be increased, it is MAC's recommendation that additional manpower be obtained. LP&L should monitor, audit and watch all of the critical activities such as cable pulling, welding, hanger/snubber work, etc., as they are accomplished at the site. The additional personnel could be technicians or junior engineers. They would work with the QA electrical, mechanical and I&C engineers, thereby permitting more coverage in the field and, of course, providing additional manpower for covering the around-the-clock work that lies ahead. Additional QA manpower should be applied to ensure Contractor QA records are in auditable and buyable order.

2. The engineers of the Project Coordination group spend most of their time paper processing and attending meetings. They desire to spend more time in the field, but they cannot. If LP&L desires to effectively monitor and control the cost of construction of Waterford 3, and develop technical physical plant expertise, then the paperwork and meetings must be reduced and additional technical manpower must be added.

MAC recommends LP&L authorize EBASCO to make routine purchases within a certain limit (\$5,000); however, if LP&L desires to continue reviewing and signing all purchase orders, then additional manpower should be obtained. Specifically, one non-technical individual could process routine administrative purchase orders.



similarly, MAC recommends LP&L add contract administration expertise in the form of one individual to work with all the engineers in the Project Coordination group, thereby reducing the "formal" contract administration work currently being done by the Project Coordination engineers. The engineers have to be involved in this work, but they should not be "contract administrators" to the extent of being so occupied in the office that problems in the field are not recognized and corrected (or halted) before they reach costly magnitudes. The engineers' involvement with this contract administration work should center around verifying the field situation or "status" and not researching contract history. LP&L, in some instances, is incurring more cost because hold ups in the field are occurring when paper has not been processed by either LP&L or EBASCO. The field must receive answers to their valid inquiries and questions on a more timely basis - hours and days rather than days and weeks.

1. A more prompt starting of the work day in high gear and with full vigor would be of benefit. This also would enhance the construction monitoring credibility and visibility of LP&L in the eyes of EBASCO. If individuals of the LP&L Project Coordination and QA groups could stagger their schedule so that consistent arrival, overlapping graveyard and day shift, and days and swing shift occurred, then LP&L could more ably help instill continuity of work accomplishment from shift-to-shift in addition to sparking more credibility and visibility.
4. An EBASCO staffing evaluation was not made; however, it appears that the EBASCO Planning and Scheduling Department is heavy with people as well may be EBASCO Contract Administration Department. LP&L has paid EBASCO a significant amount of money to develop a planning and scheduling computer code. LP&L should take steps to assure maximum return from EBASCO usage of this code. Hopefully, LP&L has the rights to the code and can utilize it for future projects. LP&L should verify the number of personnel in planning/ scheduling/control and contract administration are really required, and make any necessary adjustments.
1. It would be very worthwhile, and in MAC's opinion certainly mandatory, to develop a better understanding of the numbers and inputs generated by

EBASCO which reflect project performance in the areas of planning, scheduling, productivity, performance percent complete, variance, etc. These are the significant data used to justify changes (usually increases) in organization, manpower, additional shifts of work, overtime, etc. All of these, of course, directly affect cost. MAC recommends LP&L provide a planning, scheduling and controls sort of individual to work in the Project Coordination group to become intimately conversant with EBASCO planning, scheduling, and cost control tracking, evaluation and projections. This will provide LP&L the necessary information to assist in making critical decisions. This individual could also lend insight into the applicability of staffing in these areas as suggested in 4. The existing LP&L Project Coordination and QA personnel do not have this sort of expertise (nor do they claim to have it). It is MAC's opinion that LP&L should have the expertise to fully understand the origin, logic, and rationale of project control information.

6. It is beneficial to LP&L at this time that EBASCO has been able to staff with several very competent individuals who by their nature will attempt to serve the owner's interest while still serving EBASCO's interests, while accomplishing the work. However, there are potential conflicts of corporate interests, and LP&L is paying the total bill. Hence, in MAC's opinion, the need is paramount for a comprehensive understanding of positions and strategy taken by EBASCO and Contractors and the inputs utilized to develop these.

LP&L should also be exercising influence to keep the competent EBASCO people now on Waterford 3, and should lose no opportunity to encourage EBASCO to provide more of the same. However, LP&L should be exercising approval authorizations for EBASCO additions to the EBASCO-Waterford 3 staff, especially in the case of ESSE, which will be increasing its staff to a rather large size unless appropriately controlled.

Waterford 3 is rapidly approaching the stage where construction will be moving from bulk installation to system control. This is the ideal time to have LP&L engineering become more involved in the physical plant. In light of Three Mile Island, it will be imperative the owner demonstrate technical

competence over the physical plant. The presence or participation of LP&L Engineering in all site engineering matters should be increased. LP&L Engineering should be closely monitoring EBASCO and Contractors in design changes, resolution of interferences, and verification of total plant design completion so that construction is not held up because of the lack of it. LP&L Engineering should be participating in verification of EBASCO/ Contractor engineering inputs in the areas of planning, scheduling, and control on a spot-check or greater basis, as appropriate. MAC suggests that a very competent LP&L electrical engineer become totally immersed in cables and cable pulling. Such an individual could have caught and prevented some of the existing cable pulling problems. The sooner LP&L supplies such an individual to "drive" EBASCO and the electrical contractor, the better for LP&L in the long run. With the amount of electrical conduit and cable trays installed in the plant, cable pulling should be proceeding as rapidly as possible. Along with resolving the problems associated with cables already pulled, the previously mentioned LP&L electrical engineer, dedicated to cables, could help insure that future pulls are satisfactorily accomplished. MAC also feels cable pulling should be covered by LP&L whenever it is in process. This coverage could be accomplished by QA technicians or a combination of technicians and engineers.

Cable pulling could become the significant item delaying startup, and it is evident that an additional driving force and monitoring activity is appropriate to push the work and prevent critical delays. EBASCO and the contractor need to be driven and forced to correctly do the work.

2. In some areas of the plant pipes have been in "stubbed-out" condition for some time awaiting either manpower, materials, hanger installation, or other activity. Likewise, several slabs have cured and are awaiting continuing work. LP&L Project Coordination should ascertain the reason for the delay and make certain EBASCO is not inadvertently holding or refraining from work on these. LP&L Engineering should determine if Dravo or EBASCO Engineering is responsible for the lack of pipe and pipe-associated materials, and lay the bases for legal delay-of-project-completion claims that should not be to the account of LP&L.

LP&L QA and Project Coordination should closely monitor and LP&L Engineering should assure resolution of problems associated with the following:

- Mechanical installation, concentrating on hangers, snubbers, embeds and Class I piping installations.
- Welding, especially of Class I installations.
- Tying into existing rebar
- Cable pulling (as previously mentioned, an electrical engineer is recommended to be dedicated to this effort.)

10. NRC site relations appear to be very good, stemming primarily from the credibility which LP&L Site QA has achieved. This credibility will start to erode, however, unless EBASCO and Contractor QA/QC records are placed in auditable, "buyable" order so that NRC audits of same are successfully accomplished. LP&L QA must "drive" this effort with emphasis upon EBASCO vendor quality assurance activities and EBASCO/Contractor site records.
11. It would be beneficial for LP&L Project Coordination and LP&L QA to maintain physical separation at the site.
12. LP&L should evaluate and ascertain that spare parts are being properly purchased in quantity and quality and that proper certifications and traceability exist.
13. LP&L should strive to have more of the permanent Waterford 3 staff actively participating in startup as is possible. Further, LP&L should confirm that a reasonable return is being realized for the dollars being spent for startup consultants.
14. The LP&L Waterford 3 Project Manager should consider establishing an office at the site and should become more conversant with problems from a participation-in-site-activities standpoint. The Project Manager should also have higher level of approval authority and he should be provided the authority



to approve expenditures that have been budgeted equal to that of the cognizant executive.

5. Participation in public relations activities by the Waterford 3 Project Manager and Engineering Manager have been beneficial. However, continued participation should be decreased so that more time can be spent in their titled work.

ATTACHMENT I

LP&L site personnel interviewed

1. LP&L Project Coordination

Cesar Decarreau	Manager
Paul Jackson	Electrical
Bob Gauthreau	Mechanical

2. LP&L Quality Assurance

Tom Gerrits	Manager
Ben Brown	Mechanical
Jim Woods	Electrical
Cliff Chatelain	I&C
Barry Toups	Technician

3. LP&L Startup

Tom Arrington	Manager
---------------	---------

ATTACHMENT II

Site personnel with whom brief discussions were held. These personnel were encountered in the halls, in meeting rooms, and during site inspections. No formal meetings or interviews were held.

1. EBASCO

Bob Stampley  
John Cronich  
Bob Milhiser  
John Wills  
Larry Stinson  
Bob Zaist  
Bill Arden  
Marty Soniker  
Sam Kalat  
Bill Hubrich

Project Manager  
Site Manager  
Project Superintendent  
Construction Superintendent  
Quality Assurance Manager  
Area Superintendent  
Area Superintendent  
Construction Control Superintendent  
Contract Administrator  
ESSE Manager

2. Tompkins-Beckwith

Chuck Beatty  
Bob Caudell

General Superintendent  
Chief Engineer

3. J. A. Jones

Marty Woolery

Resident Engineer

EXXON

Jim Nickle

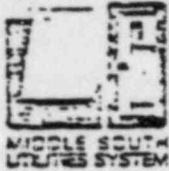
Manager, EXXON Site Group



have verified that  
is  
the ~~attaching~~ attachment - II, ~~which~~ is

HCA Report No. 8304,  
Sept 19, 1983

(w) Appendix M)



**LOUISIANA**

**POWER & LIGHT** / 142 DELARONDE STREET • NEW ORLEANS, LOUISIANA 70174

July 29, 1974

LFL 3226

Q-3-A35.02.04

Mr. L. J. Weber  
Ebasco Services, Inc.  
Two Rector Street  
New York, New York 10006

SUBJECT: WATERFORD SES UNIT NO. 3  
AUDIT OF COMBUSTION ENGINEERING, INC.  
WINDSOR, CONNECTICUT JULY 11 AND 12, 1974

Dear Mr. Weber:

Attached is the report of the subject audit. Two non-conformances were found within the scope of this audit.

Section No. 4 of the "Non-Conformance Reports" should be used by CE-Windsor for corrective action replies to LP&L. Response is requested within thirty days of their receipt of this letter.

Very truly yours,

J. M. Wyatt  
Senior Vice President

JMW:RHH:gnw

Attachments

cc: Ebasco (5), J. M. Brooks, L. M. Elliott, D. L. Aswell, L. V. Maurin,  
A. E. Henderson, D. B. Lester, C. G. Chazem, M. Stevenson, E. W. Otilio,  
P. V. Prasankumar, L. Biondolillo, F. X. Shaughnessy

LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT 3

QUALITY ASSURANCE AUDIT REPORT

1. Report No. : 74-2
2. Date: July 11 and 12, 1974
3. Audit Performed At: Combustion Engineering, Inc.
4. Location: Windsor, Connecticut
5. Audit Performed By: A. E. Henderson and R. E. Hastings
6. Audit Scope:
  - a. Open items from previous audits
  - b. Implementation of CE's response to AEC 62 QA Questions as contained in Amendment 44 to PSAR.
  - c. Items on "Future Audit Items Summary" List
7. Persons Contacted During Audit:
  - a. Pre-Audit - A. L. Gaines - Project Manager
  - b. Audit - A. L. Gaines - Project Manager  
R. M. Keller - Licensing  
T. R. Swift - GSQA Supervisor  
G. Requa - Design QA Manager  
W. E. Medinger - Manager Group QA  
J. C. Packard - GSQA  
B. Kaplan - GSQA
  - c. Post-Audit - A. L. Gaines - Project Manager  
R. M. Keller - Licensing  
T. R. Swift - GSQA Supervisor  
G. Requa - Design QA Manager  
J. C. Packard - GSQA  
B. Kaplan - GSQA
8. Summary of Audit Results:
  - a. General

CE personnel involved in this audit were cooperative and helpful.
  - b. Evaluation of QA Program based on elements audited

CE's QA activities at Windsor were generally found to be adequate. Two Non-Conformances were found.

9. Non-Conformances:

Number

74-2/1

74-2/2

10. Status of Previous Non-Conformances:

Number

Description

73-1/2

Not Audited - Remains Open

73-1/6

Procedure for Record Retention issued but has not been implemented - Remains Open

73-1/7

"Approved Sheet" included in Revision 3 of MPI-18.  
Item Closed.

A. E. Henderson 7-30-74 A. E. Henderson 7-30-74 [Signature] 7/30/74  
AUDIT TEAM LEADER / DATE Q.A. MANAGER / DATE / DATE  
[Signature] 7-30-74  
OBSERVER / DATE

## NON-CONFORMANCE REPORT

7/12/74

of Audit: July 12, 1974 Report No. 74-2  
by Audited: Combustion Engineering Non-Conformance No. 74-2/1  
ion of Audit: Windsor, Connecticut Requirement: OS, Amend 44; PSAR  
by Escort: A. Gaines Discussed with: Gaines, Requa, Swift, Packard,  
Keller, Kaplan and Medinger

Following Non-Conformance is brought to your attention for appropriate corrective action in-  
g action to prevent recurrence. Please indicate corrective action in the space provided  
In the event that corrective action cannot be completed within thirty days, include the  
uled date for completion of corrective action. Return this form to sender within \_\_\_\_ days

Description of Observation:

Objective evidence lacking to show management direction in meeting the intent and  
guidance on AEC Regulatory Guides 1.30 (ANSI 45.2.4), 1.31, 1.37 (ANSI 45.2.1), and  
1.38 (ANSI 45.2.2). 2. CE has not responded to commitment made in LW3-754-73.

Recommendation by Auditor:

Management should direct those responsible within CE to meet the intent and guidance of these  
mentioned Regulatory Guides and to document the implementation. Also response to commitments  
made in LW3-754-73.

cor(s) Signature: A. E. Henderson Ralph E. Hastings Date 7-12-74

uledged by: Signed by A. L. Gaines Title: Project Manager Date 7-12-74

Corrective Action Reply:

uled Date of Corrective Action: \_\_\_\_\_

y made by: \_\_\_\_\_ Title: \_\_\_\_\_ Date \_\_\_\_\_

Corrective Action evaluated and confirmed.

ed by: \_\_\_\_\_ Date \_\_\_\_\_



# NON-CONFORMANCE REPORT

Date of Audit: July 12, 1974 Report No. 74-2  
 Audited: Combustion Engineering Non-Conformance No. 74-2/2  
 Location of Audit: Windsor, Connecticut Requirement: 07. Amend 44 PSAR  
 Audit Escort: A. Gaines Discussed with: Keller

Following Non-Conformance is brought to your attention for appropriate corrective action in-  
 cluding action to prevent recurrence. Please indicate corrective action in the space provided.  
 In the event that corrective action cannot be completed within thirty days, include the  
 anticipated date for completion of corrective action. Return this form to sender within      days

## Description of Observation:

Described procedure for preparing positions on Regulatory Guides. Evidence of methods to  
 implement procedure are lacking.

## Recommendation by Auditor:

Document implementation of procedure.

Auditor's Signature: A. E. Henderson, Jr. R. E. Hastings Date 7-12-74

Acknowledged by: Signed by A. L. Gaines Title: Project Manager Date 7-12-74

## Corrective Action Reply:

Anticipated Date of Corrective Action:                     

Approved by:                      Title:                      Date                     

Corrective Action evaluated and confirmed.

Signed by:                      Date                       
 (Signature)

# EBASCO SERVICES

INCORPORATED

UTILITY CONSULTANTS • ENGINEERS • CONSTRUCTORS

TWO RECTOR STREET  
NEW YORK, N.Y. 10005

EASCO ACCOUNT "EBASCO"

Q-3-435.02.04

AUG 12/15-M/76

March 3, 1977

LW3-402-77 ✓

File: 1-Q-2

Mr W D Mawhinney, Project Manager  
Combustion Engineering, Incorporated  
Nuclear Power Department  
1000 Prospect Hill Road  
Windsor, Connecticut 06095

Re: LOUISIANA POWER & LIGHT COMPANY  
WATERFORD SES UNIT NO. 3  
QUALITY ASSURANCE AUDIT  
CE-CHATTANOOGA

Dear Mr Mawhinney:

Attached is a copy of the report on the subject audit. The report identifies several nonconformances as well as items of concern which the auditors found during their review of records and the records management system. As indicated in the last section of the report, we are requesting a written response to these items within thirty (30) days of receipt of the report.

If there are any questions, please contact D N Galligan (212) 785-6208.

Very truly yours,

R K Stampley/JSN

R K Stampley  
Project Manager

RKS/DNG:==

cc: W D Mawhinney (2)  
D L Aswell J O Booth (2)  
L V Maurin W O LaPointe  
A E Henderson  
D B Lester  
P V Prasankumar  
Power Production Department-Nuclear (3) ✓  
E W Giallilo  
F W Carreras  
C G Chasen  
L B Shackford  
W K Combs  
R E Kammann  
J M Brooks

FOR INFORMATION ONLY





On December 15 through 19, 1976 inclusive, Ebasco and Louisiana Power and Light Company conducted an audit at C.E. Chattanooga Mfg. facility. Certain records, pertaining to Waterford III Reactor Pressure Vessel, and (1) one Steam Generator together with other randomly selected items of equipment, were given an in-depth review and evaluation.

The main objectives of the audit were:

- 1) To ascertain the availability of certain records.
- 2) To assure the content and completeness of the records.
- 3) To assure that the records management system at C/E - Chattanooga was operational and met the intent of ANSI 45.2.9 and amendment #44 to the PSAR.

Audit Team Member - Mr. Ralph Hastings, Quality Assurance Engineer  
Representing Louisiana Power and Light Company

Audit Team Leader - Mr. Edward J. Maloney - Principle Quality Assurance Engineer  
Representing Ebasco Services Incorporated, N.Y.C.

\* Part Time attendance or as required:

Representing C/E - Windsor, Conn (W)    All other attendees representing Chattanooga.

Mr. John Solury - Contract, Q.A. (W)	* Mr. Robinson - Piping
Mr. Barry Milliken - Projects (W)	* Mr. Wally Reed - Chief Q.A. Chattanooga
* Mr. B J Bates - Audit Coordinator	* Mr. R.G. Kivett - Lead Q.A. Engineer
* Mr. Paul Kiefer - Q.E. Reactor Vessel	* Larry Hoenig - Design Engineering
* Mr. Jeff Andrews - Records Storage	* Don Diger - C.E. Rep at Chattanooga for LP&L Job.

Audit findings:

Non-Conformance to ANSI 45.2.9 and Combustion Engineering Procedure 17.3 Rev. C.

The auditors found inadequate implementation of requirements for record retention in the vault area, as listed below:

- a. There was no fire rating on the vault door.
- b. The environment in the vault was dusty.
- c. There was no current documented control of temperature and humidity.  
(Corrective action has been taken on this item).
- d. The vault custodian was not using, nor was he aware of the latest revision of the procedure for records retention, procedure 17.3.  
(He had Revision B when Revision C has been issued. He should also have reviewed Revision C.)

- e. In accordance with procedure 17.3, Revision C, the vault custodian needs to determine if he has the latest applicable manufacturer's recommendations for the storage of radiographs.
- f. There was no written procedure to detail the specifics as to who would have access to the documents in the vault; a control register for temporary withdrawal of documents and the periodic audit of the vault, its contents and control logs.

#### Recommendation

The auditors recommend that the vault custodian or other responsible individual examine the implementation of requirements for the retention of required records, and that appropriate action be taken to correct nonconformances, to record retention requirements.

#### Concerns

The definition of a concern as pertains to the audit is - an item that is not fully compliant with requirements and if not taken care of will become a non-conformance.

The following three concerns were identified during the audit:

- 1) A cover or signature approval sheet for the Quality Program Review known as 17-3, Rev. C was not available when documents were presented.
- 2) The review and approval cycle of the subject cover sheet did not bear the C.E. Quality Manager's signature.

Recommendation: It is the auditor's recommendation that an instruction or procedure be written to identify the sequential steps or flow mechanism required in the implementation of this procedure.

- 3) Observation or Concern (Instructions, procedures and drawings)

Those individuals who were contacted during the course of this audit could not show the auditors a procedure, letter or other document authorizing the use of the review form (review of procedures). The form allows the recipient to signify review and/or acceptance of a procedure log by not returning the form. That is, if the form is not returned within a specified time period, it indicates acceptance of the procedure. (The review/comments loop does not require a position response from the reviewer.)

- 4) The auditors noted that although the equipment has been completed and shipped to the site for some time, the associated records were not located in a centralized location, nor had any of the records been processed or stored in the vault. We were unable to establish an exact date, when the subject records would be processed and finally stored in the vault.

- a) Response requested as to storage environment of areas where records are being maintained in the interim period?
- b) Has the processing of records for storage been started at this point in time?
- c) What is the expected completion date for storage of the subject records?

#### Evaluation of Audits

The records and documentation for various items of equipment listed below which were randomly selected by the auditors and the subject documents reviewed to ascertain and assure that specific non-destructive examination and testing of operations and welding were accomplished, properly signed off and dated.

All of the drawings, inspection reports and other pertinent documents that were requested by the audit team were retrieved and made available for review during the audit. All documents that were checked were found to be complete and meeting their specified requirements.

All inspection, test or specially designated examination points listed on the travelers and on the reports of inspection were evidenced as having been accomplished by proper sign off and date.

A detailed list of those items that were selected, reviewed and verified as satisfactory is entitled attachment "A" to this report and will be retained by Ebasco Quality Assurance Engineering N.Y. Office

One exception to the above statement was a list of Qualified Welder Initials were copied from the Weld History Charts of the various items of equipment listed in this report. The auditors requested verification of the welder and procedure qualification which was not available prior to the end of the exit critique of the Audit.

A list of qualified welders has since been compiled and transmitted to the lead auditor. It has been reviewed and found satisfactory. It is the recommendation of the lead auditor that the list be cross referenced with the actual welder performance qualifications and procedure qualifications at the next visit to Combustion Engineering Chattanooga, by Louisiana Power and Light Quality Assurance Engineering.

#### Conclusions:

We are requesting a written response indicating "Corrective Action" taken or planned by C.E. to correct the nonconformances listed as items (a) through (f) inclusive. Your response is requested within thirty (30) calendar days of the date of this report.

We are further asking that C.E. give a written response to the four items of concern, indicating what remedial corrective action has been or will be taken in each of the areas of concern.



LOUISIANA  
POWER & LIGHT

142 DELARONDE STREET • P.O. BOX 8008  
NEW ORLEANS, LOUISIANA 70174-6008 • (504) 386-2345

November 17, 1983

W3P83-3827  
3-A1.16.07  
3-A101.04

Director of Nuclear Reactor Regulation  
Attention: Mr. G.W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

*Concrete  
crack issue*

SUBJECT: Waterford 3 SES  
Docket No. 50-382  
Ground Water Sample Associated with Basemat

Please find attached, the water chemistry report for the ground water sample associated with the Waterford 3 basemat. The information provided in the report was orally provided at the meeting on this subject on November 3, 1984.

Very truly yours,

*William A. Cross*

*for* K.W. Cook  
Nuclear Support & Licensing Manager

KWC/RWP/ch  
Attachment

cc: E.L. Blake, W.M. Stevenson, J. Wilson, G.L. Constable

FREEDOM OF INFORMATION  
ACT REQUEST

84-455 C/102

~~8311280512~~

*3pp*

To: Roy Prados  
From: Joe Costello

GROUND WATER

Lab No: 83-70193

Date: September 30, 1983

**NEW YORK TESTING LABORATORIES, INC.**  
CALL BOX 1021, 78 URBAN AVENUE, WESTBURY, L.I., N.Y. 11590 • (516) 334-7770 • (212) 297-1400

**REPORT OF TESTS**

Client — 83-70193 — Ebasco Services Inc.  
Material — One (1) Water Sample  
Client's Order No. — Pending  
Identification — 9/26/83  
Submitted for — Chemical Analysis

Sample taken from  
Temporary Construction  
Manhole located  
in R.A.B. basement  
at -35 MSL (Col. K2-A)

1. Pump pumped out.  
2. Sample bottle placed  
under Temp. Elec.  
Conduit which leak  
ground water.

We find as follows:

pH at 20 deg. C.

Results

8.15

Results in — (mg/l)

Total Dissolved Solids:

170

Alkalinity as  $\text{CaCO}_3$ :

207

Sulfate as  $\text{SO}_4$ :

60

Bicarbonate Alkalinity as  $\text{CaCO}_3$ :

207

Chloride as Cl:

15

Dissolved Oxygen:

8.1

Carbon Dioxide:

1.3

Hydrogen Sulfide:

< 0.01

Iron:

0.773

Calcium:

56.30

Sodium:

22.91

Calcium Hardness as  $\text{CaCO}_3$ :

147

< = Less than



# NEW YORK TESTING LABORATORIES, INC.

Page 2 of 2

Lab No. 83-70193

Report prepared by:

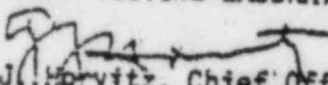
Ramo Gigante  
Laboratory Director

## CERTIFICATION:

We certify that this report is a true report of results obtained from our tests of this material.

Respectfully submitted,

NEW YORK TESTING LABORATORIES, INC.

  
G. J. Horvitz, Chief Officer

To:

Ebasco Services Inc.  
One Jericho Plaza  
Jericho, N. Y. 11753

Att: Mr. William Gundaker

mg

Report on sample by client applies only to sample.

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Samples retained for thirty days maximum after date of report unless specifically requested otherwise by client. The liability of the New York Testing Laboratories, Inc. with respect to the services charged for herein shall in no event exceed the amount of the

Report on samples by us applies only to test samples.