LOUISIANA POWER & LIGHT P. O. Box B, Killona, La. 70066

MIDDLE SOUTH UTILITIES SYSTEM

April 6, 1984

W3K84-0755
Q3-A35.01

Mr. Paul Keshishian
Nuclear Regulatory Commission
East - West Towers - South Building
4350 East West Highway
Bethesda, Maryland 20014

Dear Mr. Keshishian:

Enclosed are the following copies of items which you have requested:

1) Information Request Log with some CIRR's attached.

2) Miscellaneous requested information.

Should the need for further information arise, please do not hesitate to call.

Yours very truly,

for TFGerrets

T. F. Gerrets
Corporate Quality Assurance Mgr.

TFG/PRS/gc

cc: Central Records

EBASCO SERVICES INCORPORATED EBASCO

Q.S.E. NO. 995
DATE: 4-6-84

To: Ron Bennett - LP&L QA Construction Supervisor

From: T. H. MacDonald - Lead Q.A. Surv. Engr.

Subject: Engineering Evaluation Results on Caulking and Penetration Sealant Compounds in use at Waterford III

Attached herewith are copies of engineering evaluations concerning the acceptability for use on stainless steel of chemical compounds which make-up the vapor sealant caulking and penetration sealants. All of the known compounds in use at Waterford III by AIS Joint Venture (W3-NY-20) and B&B Insulators (W3-NY-27) were evaluated and deemed acceptable.

If we can be of further assistance or if additional information is required, do not hesitate to contact this office.

THM:cmg

cc: Q.S.E. File
L. Bass
S. Horton
Surveillance File

FOR WALTER SPORRO

EBASCO SERVICES INCORPORATED

EBASCO

Q.S.E. NO. 990
DATE: 4-2-84

To: Stan Cockrell - Materials Application Engineer

From: T. H. MacDonald - Lead Q.A. Surv. Engr.
J.H. MacDonald

Subject: Evaluation of Chemical Compounds in use by B&B Insulators

Please provide an engineering evaluation for the acceptability for applications on stainless steel on the following chemical compounds:

Radflex 1C - SWL Lab No. 199 3.17/187
Radflex 2C - SWL Lab No. 200 7.17/96
Ldse 1L - SWL Lab No. 205 7.13/35
Ldse 2L - SWL Lab No. 206 1.5/238

The chemical analysis for the above listed compounds is attached.

THM:cmg

cc: Q.S.E. File

Stan

all results are in the "acceptable Analysis" range, i.e. below the line, in fact "off" the graph. - Application is OK for Stainless Steel.

Jack Bailey 4/4/84

Surv. Report

MATERIALS APPLICATIONS RESPONSE:

Materials Applications considers Silastic 732 silicone rubber sealant to be acceptable for use with austenitic stainless steel. Data provided by the manufacturer indicates a total halide content of only 20 ppm. Leachable halides must be even lower. The material therefore meets the criteria established for permissible level of contaminants given in Regulatory Guides 1.37 and 1.38.

C. McCaul
Materials Applications Dept.
3/12/84

Engineering Response to
Surveillance Report
W3-NY-27/BS-2

6009(13)/5.77

EBASCO SERVICES INCORPORATED

QUALITY ASSURANCE

NONCONFORMANCE REPORT

LOGBOOK ENTRY

Distribution:
White - PQAE or Site QA Supervisor
Yellow - Organization recommending disposition
Pink - Initiator of NCR

REPORT NO. 103-7285

INSTRUCTIONS: (See back of form) TC 1300 30.69 SUS 316 C

CLIENT OR PROJECT (2): Waterford SES #3, Louisiana Power & Light

DRAWING NO./SPEC NO. (3): Federal Regulatory Guide 1.36

SUPPLIER, CONSTRUCTION QC OR CONTRACTOR (4): A.I.S. Joint Venture

P.O. NO. (5): W3-NY-20

DESCRIPTION OF COMPONENT, PART OR SYSTEM (6): Elastolar Sealant, Type 95-44C (Foster Product)

I. DESCRIPTION OF NONCONFORMANCE (7) (Items Involved, Specification, Code or Standard to Which Items Do Not Comply, Submit Sketch if Applicable)

Per Reg. Guide 1.36 (attachment #1) "austenitic stainless steel is subject to stress corrosion and should be protected from certain contaminants that can promote cracking." H.B. Fuller Co. Letter (attachment #2) states the referenced sealant "is not recommended for use on austenitic stainless steel due to its failure in the preproduction stress corrosion cracking test portion of MIL-T-24244." See attachment #3 for examples and locations of application of Elastolar Sealant by A.I.S. Joint Venture. UNIT: NUMEROUS

NAME AND SIGNATURE OF PERSON REPORTING NONCONFORMANCE (8): Thomas MacDonald T.H. MacDonald

TITLE/COMPANY: LQSE / Ebasco

DATE (9): 2-22-84

II. RECOMMENDED DISPOSITION (10) (Submit Sketch if Applicable)

CIL-162 mat'l acceptable

See attachment #4

REPORTABLE	YES	NO
10CFR50.55(e)	☐	☑
10CFR21	☐	☑

Reviewed by: [illegible] Date: 3/5/84

3/5/84

NAME AND SIGNATURE OF PERSON RECOMMENDING DISPOSITION (11): JACK BERSKY

TITLE/COMPANY: SUP'G MAT'LS ENG.

DATE (12): 3/1/84

III. EVALUATION OF DISPOSITION BY EBASCO, REASON FOR DISPOSITION (13)

(1) Concur with Attachment #4

IV. CORRECTIVE ACTION (14) ☐ Required ☑ Not Required [illegible] 3/5/84

V (15)	☒ ENGINEERING	☒ QUALITY ASSURANCE	☐ CONSTRUCTION	☐ OTHER
(16)	NAME (SIGNATURE)	NAME (SIGNATURE)	NAME (SIGNATURE)	NAME (SIGNATURE)
	DATE 3/2/84	DATE 3/5/84	DATE	DATE
	☑ ACCEPTED ☐ REJECTED ☐ ACCEPTED WITH COMMENTS	☑ ACCEPTED ☐ REJECTED ☐ ACCEPTED WITH COMMENTS	☐ ACCEPTED ☐ REJECTED ☐ ACCEPTED WITH COMMENTS	☐ ACCEPTED ☐ REJECTED ☐ ACCEPTED WITH COMMENTS

VI. VERIFICATION OF DISPOSITION ☐ REQUIRED ☒ NOT REQUIRED (16) [illegible] 3/5/84

(17) BY _____ (EBASCO VENDOR QA OR QA ENGINEERING) SIGNATURE _____ TITLE _____ DATE _____

This is Attachment 4
to NRC Letter 1285 page 1
of 1 pages 3/31/84

ATTACHMENT 4

Accept as is. The Ebasco specification requires conformance with Regulatory Guide 1.36, which references ASTM C692, a test to determine susceptibility to stress corrosion cracking, of thermal insulation materials. The vendor, H B Fuller, tested Elastolar Sealant Type 95-44C in accordance with MIL-I-24244, rather than ASTM C692. MIL-I-24244 is a more severe test as testing is performed on sensitized stainless steel samples rather than annealed material as specified by ASTM C692. Therefore, the test results appear suspact as testing was not in conformance with Reg Guide 1.36. Elastolar Sealant 95-44C is a butyl rubber formulation used as a vapor barrier in order to preclude the intrusion of moisture into the insulation. The elements referenced in Reg Guide 1.36 can therefore not leach out. The contaminants in the sealant, even if leachable, would fall outside the range of chemical compositions described in Reg Guide 1.36. Accordingly, it appears inappropriate to apply Reg Guide requirements, intended primarily for thermal insulation, to a butyl rubber sealant. The low levels of chloride and fluoride present in Elastolar Sealant 95-44C would meet the criteria established for permissible level of contaminants given in Regulatory Guides 1.37 and 1.38.

B 3/31/84

EBASCO SERVICES INCORPORATED

BY JML DATE 3-29-84 SHEET ____ OF ____

CHKD. BY ____ DATE ____ OFS NO. ____ DEPT. NO. ____

CLIENT LOUISIANA POWER & LIGHT

PROJECT WATERFORD SES UNIT # 3

SUBJECT REVISED RESPONSE TO C.A.T. SUPPORT IR # 130

TO: RON BENNETT / ROWLAND JAMES

FROM: MARK WALSH / J. LUCHETSKI

Mark J. Walsh

PER RESPONSE (ITEM #1) TO C.A.T. SUPPORT IR # 130, WE HAVE EXAMINED THE BATTERY CHARGERS (3A1-S, 3A2-S, 3B1-S AND 3B2-S) AND THE 125 V DISTRIBUTION PANELS (3-A-DC-S, 3-B-DC-S AND 3-AB-DC-S) FOR SEPERATION VIOLATIONS.

THE BATTERY CHARGERS DO NOT HAVE ANY SEPERATION VIOLATIONS. THE ONE NON-SAFETY (NA OR NB) CONDUIT ROUTED TO EACH CHARGER CONTAINS ONLY XA OR XB CABLES (SEE TABLE BELOW). PER B-28B SHEET 10B, SEPERATION IS NOT REQUIRED BETWEEN SA/XA CIRCUITS AND SB/XB CIRCUITS.

THE SEPERATION VIOLATIONS IN THE 125 V DISTRIBUTION PANELS HAVE BEEN IDENTIFIED ON POTENTIAL PROBLEM REPORT # 0123.

BATTERY CHARGER	CONDUIT	CABLE
3A1-S	32560G-NA	32560G-XA
3A2-S	32560H-NA	32560H-XA
3B1-S	32562G-NB	32562G-XB
3B2-S	32562H-NB	32562H-XB

581/8-81

P.P.R. No. C123

Potential Problem Report

S.U.S.: 2A

Item Description: SEPERATION VIOLATIONS IN 3-A-DC-S, 3-B-DC-S & 3-EE-DC-S

Location: Building RAB Elevation +21

Coordinates SEE DETAILS BELOW

Description of Discrepancy:

THE FOLLOWING SEPERATION VIOLATIONS ARE BASED UPON THE APPROVED PAIRINGS SHOWN ON LOU ISOM B-228 SHT 10 B REV 2.

3-A-DC-S (RAB +21, ~17' E OF 9A, ~12' N OF H)

1) CABLE 300058-SMA DOES NOT MAINTAIN SEPERATION WITH SA CABLES (EG 31S9EA-SA, 324EEA-SA, 32319A-SA, ETC.). RECOMMEND THAT CABLE 300058-SMA BE RETRAINED/REBUNDLED (MAY ALSO REQUIRE ADDITION OF BARRIERS) OR HAVE ESSE-ELECTRICAL EVALUATE FOR ACCEPTABILITY OF SMA/SA PAIRING IN PANEL

2) CABLE 92921B-NA (2-1/C #4) DOES NOT MAINTAIN THE REQUIRED SEPERATION WITH CABLE 34066-SA. RECOMMEND THAT 92921B-NA BE RETRAINED/REBUNDLED TO MAINTAIN SEPERATION.

Reported by:

Name: JOSEPH LUCHETSKI
(Print)

Signature: Joseph Luchetski

Date: 3-30-84 Ext. 3694

This information is submitted to the LP&L Start-Up Manager for evaluation.

No response is required.

3-B-DC-S (RAB +21, ~10'E OF 9A, ~1' S OF K)

1) CABLE 30006H-SMB DOES NOT MAINTAIN SEPERATION WITH SB CABLES (31549A-SB, 32511A-SB, 32573K-SB, ETC). RECOMMEND THAT CABLE 30006H-SMB BE RETRAINED/REBUNDLED (MAY ALSO REQUIRE ADDITION OF BARRIERS) OR HAVE ESSE-ELECTRICAL EVALUATE ACCEPTABILITY OF SMB/SB PAIRING.
2) CABLE 92921G-NB (2-1/C = 4) IS BUNDLED WITH CABLES 32366A-SB AND 34326-TB - VIOLATING MINIMUM SEPERATION REQUIREMENTS. RECOMMEND THAT 92921G-NB BE RETRAINED/REBUNDLED TO MAINTAIN SEPERATION.

3-AB-DC-S (RAB +21, ~7' E OF 10A, ~5' S OF J)

THE LEFT COMPARTMENT (WHEN VIEWING 3-AB-DC-S FROM THE REAR) CONTAINS THE ONLY SEPERATION VIOLATIONS FOUND IN THE PANEL. SEPERATION IS NOT MAINTAINED BETWEEN SAB CIRCUITS AND CIRCUITS IN EACH OF THE NON-SAFETY CHANNELS: NA, NB AND NAB. THE NUMBER OF VIOLATIONS ARE TOO NUMEROUS TO IDENTIFY IN DETAIL. RECOMMEND THAT THE CABLES IN THE LEFT COMPARTMENT BE RETRAINED/REBUNDLED (MAY ALSO REQUIRE ADDITION OF BARRIERS) TO MAINTAIN SEPERATION.

NOTE: THE SEPERATION VIOLATIONS LISTED ABOVE REPRESENT ONLY THE ACCESSIBLE VIOLATIONS. WITH EACH OF THE PANELS ENERGIZED, WE WERE UNABLE TO EXAMINE THE ENTIRE PANEL. WE RECOMMEND THAT WHEN EACH PANEL IS DE-ENERGIZED TO CORRECT THE VIOLATIONS LISTED ABOVE, THE ENTIRE PANEL SHOULD BE SURVEYED TO ENSURE THAT THE SEPERATION CRITERIA ARE MET.

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	DUE DATE: TIME:	RESPONSE RECVD:	REMARKS:
3/12 201	M.M.	FCR's Requested	P.P.	3/13-2PM	M.M.	
3/12 202	M.M.	B-P Catalog Items	P.P. (McGrath)	3/13-2PM	M.M.	
3/12 203	M.M.	Misc. (Chan) 10	P.P.	3/13-5PM		All but item 1
3/13 204	F.D.	NCR's, 7604, 7294, 9292, 7293 FCR-AS-3768	P.P.	3/13-2PM		
3/13 205	R.S.	Reg. HX-CIWA	M. Wise L. Stinson	3/13-2PM		Letter NCR 7634
3/13 206	R.S.	CBI Welder Records	P.P.	3/13-5PM	R.S.	
3/13 207	G.K.	NCR W3-7285	P.P.	3/13-2AM	G.K.	
3/13 208	R.J.	Raceway Inspection Checklists	L. Lubinski	3/13-5PM		Ready for review 3/13
3/13 209	D.G.	Request for Craft - Civil Torquing	M. Quinn	3/12-12 noon	D.G.	
3/13 210	M.M.	CEIR-M33E	R. Rein/McGrath	3/13-5PM		
3/13 211	RGP	Doc Pkgs. for Cabinet 27A & 37A	L. Lubinski	3/14-12 noon		
3/13 212	M.M.	ISO's for CHRR-30 & 148	P. Pitman	3/14-12 noon		
3/13 213	M.M.	IOS's for BMRR-104 & FSRR-119 Status of U-Bolt (CHRR-246)	M. McGrath	3/14-2PM		
3/14 214	M.M.	SIRR 312/280 = 3/8 U-Bolts SIRR 281 = 1/2 U-Bolts	M. McGrath	3/14-5PM		Same BP No.

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	DUE DATE: TIME:	RESPONSE RECVD:	REMARKS:
3/14 215	M.M.	NCR's dispositioned (Seg. 204)	P. Pitman/J. Debruin	3/15-5PM		
3/14 216	R.J.	Eng. considered sprinkers SWGR	J. Debruin	3/15-5AM		
3/14 217	R.J.	Request ASP-IV-58, DCN-E-1441	P. Pitman	3/15-2PM		
3/14 218	R.S.	CS Handwheel in RVPool	J. Debruin	3/15-2PM		
3/14 219	M.M.	NCR 7543	P. Pitman	3/14-5PM		
3/14 220	R.J.	Tray & conduit Loading questions	J. Debruin	3/15-5PM		
3/14 221	R.L.	Radiograph Request	GEO	3/15-5PM		
3/14 222	G.K.	NCR W3-7621	P. Pitman	3/15-12 noon		
3/15 223	R.S.	Insulation Removal & Piping Dwg.	P. Pitman	3/15-12 noon		
3/15 224	M.M.	Pgs. 5 & 6 of PC-1	P. Pitman	3/15-12 noon		
3/15 225	M.M.	QP17.5	L. Bass	3/15-12 noon		
3/15 226	R.S.	Lack of QC on CC Water Pump A	P.Pitman/S. Horton	3/15-2PM		Released to LP&L
3/15 227	R.S.	Install Rec. Hydron Recombiner	L. Lubinski	3/15-2PM		
3/15 228	M.M.	Clearance Problems	J. Debruin	3/15-5PM		
3/15 229	R.S.	Lack of PT's on RVPool	D. Cockrell	3/16-12 noon		(?)

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	DUE DATE: TIME:	RESPONSE RECVD:	REMARKS:
3/15 230	G.K.	HVAC Documentation	G. Bourgeois			
3/15 231	M.M.	Copy of 208 Walkdown	P. Pitman	3/17-10AM		
3/16 232	M.M.	Copy of NCR 7266	P. Pitman	3/16-5PM		
3/16 233	G.K.	Copy of Dwg. G-333	P. Pitman	3/16-5PM		
3/16 234	R.T.	Copy of NCR 875(F&M)	P. Pitman	3/16-5PM		
3/16 235	R.J.	Gulf traveler clarification	R. Ronquillo	3/16-5PM		
3/16 236	R.J.	Clean bolt head, Aux. CCW Pump Motor B	B. Walters	Will call RB		
3/16 237	R.S.	FCR-M-62	P. Harrington	3/17-5PM		
3/16 238	R.S.	Lack of FQR	S. Cockrell	3/17-5PM		
3/16 239	G.P.	Torque Wrenches	B. Arden	3/17-5PM		
3/17 240	R.J.	Maintenance	R. Sproules/M. Wise	3/19-10AM		
3/17 241	B.T.	DN-Support Missing	P. Pitman	3/19-10AM		
3/14 242	B.T.	Need UT Test Sketches. Justify No. Insp.	J. Debruin	3/19-10AM		
3/17 243	B.T.	Welder Qualification	P. Pitman	3/19-10AM		
3/17 244	G.P.	Craft to Torque Hilti-bolt	B. Arden	3/17-5PM	VOID	VOID

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	DUE DATE: TIME:	RESPONSE RECVD:	REMARKS:
3/17 245	R.J.	Cable Installation Pkgs.	L. Lubinski	Call when ready		
3/17 246	RGP	Epoxyline 66 chemistry	S. Horton	3/19-5PM		
3/19 247	R.L	Reshot Radiograph	B. Champton	Notify RL/JD		
3/19 248	R.J.	Penetration Doc. problems	L. Stinson	3/20-12 noon		
3/20 249	B.T.	IEW PWHT discrepancy	J. Debruin	3/20-5PM		
3/20 250	B.T.	Compliance to Reg. 1.44	J. Debruin	3/20-5PM		
3/20 251	B.T.	IEW Welder Quals.	J. Debruin	3/20-5PM		
3/20 252	B.T.	Requested Memo	P. Pitman	3/20-12 noon		
3/20 253	B.T.	Welding Procedures	P. Pitman	3/20-5PM		
3/20 254	G.K.	Diesel Generator Records	L. Lubinski	3/20-5PM		
3/20 255	G.K.	GG Termination Problems	M. Walsh	3/20-5PM		
3/20 256	B.T.	Welder Qual.	S. Cockrell	3/20-5PM		
3/20 257	B.T.	Welding Concern (Records Qualific.)	L. Stinson/S. Cockrell	3/20-5PM		
3/20 258	B.T.	Procedural - WP105, WP44 Problems	S. Cockrell	3/21-12 noon		
3/20 259	G.K.	Gulf Hold Tags	P. Pitman	3/21-12 noon		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	DUE DATE: TIME:	RESPONSE RECVD:	REMARKS:
3/20 260	G.K.	Elect. Problems	M. Walsh	3/21-12 noon		
3/20 261	R.L.	Design Direction	J. Debruin	ASAP		
3/20 262	R.J.	Gapin Maintenance Records	M. Houch	3/20	3/21	Started with Spokes
3/20 263	R.J.	Conduit 39801	M. Walsh	3/21-12 noon		No Mention
3/20 264	R.J.	Separation bait charger	M. Walsh	3/21-12 noon		
3/20 265	B.T.	BMRR 3135 & SLRR 3025	M. McGrath	3/22-2PM		
3/20 266	B.T.	WP-11 & WP-5, WP9, WP10	S. Cockrell	3/22-2PM		
3/20 267	G.K.	NCR-W3-6608	P. Pitman	3/22-2PM		
3/20 268	G.K.	HVAC Fire Damper Failure	P. Pitman	3/22-2PM		
3/20 269	B.T.	LP&L Hydro Records Review	RGB	3/22-2PM		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/14 1	R.J.	Press Rqmt's - conax	R.J.	R.J.	OK	Roland supplied data.
2/14 2	R.J.	Rosemount - Environmental	J. Debruin	R.J.	OK R.J.	
2/14 3	R.J.	Batteries	M. Walsh	R.J.		
2/14 4	R.J.	Press - leak - to NRC?	J. Debruin	R.J.	OK	
2 14 5	L.B.	I Beam - C3755N	R. Hartnett	L.B.		
2/14 6	L.B.	Damaged strut - PRI, everything	J. Pertuit	2/14	L.B. OK	
2/14 7	L.B.	Mounting of CP's	M. Walsh	L.B.		
2/14 8	R.L.	NDE - Film in Miss. W3	C. Bryan	R.L.		
2/14 9	M.M.	CWRH-31	M. McGrath	M.M.		
2/14 10	S.H.	Welding - Buffalo Force	G. Bourgeois	G. Gergieu	Ready for review	See Amin Bashara
2/14 11	R.J.	Cable pkgs. requested	L. Lubinski	R.J.		
2/14 10	R.J.	Installation dwgs. of MCC's	P. Pitman/M. Walsh	R.J.	OK	
2/14 13	R.J.	Cable pkg. requested	L. Lubinski			
2/14 14	R.J.	Installation dwgs. of MCC's	P. Pitman/M. Walsh	R.J.	OK	

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/15 15	L.B.	Mark No.'s-Pumps-NE & OPS	J. Chapdelaine	L.B.	OK	
2/15 16	L.B.	Valve - Loose Support	McDonald	L.B.	OK	
2/15 17	B.T.	ARC Strike - HPSI	L. Gunther	B.T.	OK	
2/15 18	B.T.	BM-IC-850 - Undercut	L. Gunther	B.T.		
2/15 19	B.T.	Valve 3CC-601-8 Tee weld	L. Gunther	B.T		
2/15 20	B.T.	MS-IC-10 FW-1	L. Gunther	B.T.		
2/15 21	M.M.	Need T&B Contract	P. Pitman	M.M.	OK	
2/15 22	G.K.	Copy of DCN-IC-461R3	P. Pitman	G.K.	OK	
2/15 23	G.K.	Instrumentation. Cal stickers	P. Pitman			
2/15 24	G.K.	FCR-ICP-320	P. Pitman			
2/15 25	M.M.	SISH-113-Setting	R. Rein	M.M.	OK	
2/15 26	M.M.	SIRR-835	R. Rein	M.M.	OK	
2/15 27	M.M.	VOID				
2/15 28	R.J.	Elec. Documentation	P. Pitman (Hold)	R.J.		
2/15 29	R.J.	SWGR/MCC Belting	M.W.	R.J.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/15 30	R.J.	SWGR/MCC	M.W.	R.J.		
2/15 31	R.J.	Lust'l dwgs. (Batt. Rack)	M.W./P.P.	R.J.		
2/15 32	B.T.	Chart Speed - PHWT Rec.	L.R.	B.T. OK		
2/15 33	M.M.	SIRR-946	R. Rein	M.M. OK		
2/15 34	M.M.	SISH-725	R. Rein	M.M. OK		
2/15 35	M.M.	SIRR-833	R. Rein	M.M.		
2/15 36	M.M.	Line 35I6-47A/B	R. Rein	M.M.		
2/15 37	B.T.	SIRR-199	V.J. Chandler			
2/15 38	M.M.	MSRR-245	R. Rein	B.T. OK		
2/15 39	G.K.	Tray P108NA	M. Walsh	R.J.		
2/15 40	M.Q.	Insulation Removed-Weld Inspection	B. Walters	M.Q.		
2/15 41	R.J.	Conduits wrapped with fire stop	M.W.	R.J. OK		
2/15 42	R.J.	Bend Radius	M.W.	R.J.		
2/15 43	R.J.	Unidentified Cables	M.W.	R.J.		
2/15 44	R.J.	Grout/Insp. Record	M.Walsh	R.J.	Bolted, not grouted.	

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/15 45	R.J.	Expired due date cal stickers	M. Wise	R.J.		
2/15 46	R.J.	Gould Battery	M. Walsh	R.J.		
2/15 47	R.J.	Missing IR	P. Burgard	R.J.		
2/15 48	G.K.	I&C Cal Records	M. Wise	G.K.	OK	
2/15 49	B.T.	Insulation Removal	B. Walters	B.T.	OK	
2/15 50	G.K.	Copy B430 SHT X-39	P. Pitman	G.K.	OK	
2/15 51	G.P.	Inst. CAB Alarm Lites	M. Wise	G.R.	OK	
2/15 52	B.T.	Chemistry	P. Pitman	B.T.		
2/15 53	M.M.	Copy of PC-1	P. Pitman	M.M.	OK	
2/15 54	R.J.	Valve 2S1-V154 7B3	M. Walsh	R.J.		
2/15 54A	R.J.	Cable Trays P1025B & C1025B	M. Walsh	R.J.	OK	
2/15 55	B.T.	Spool piece	L. Gunther	B.T.		
2/14 56	M.M.	Hanger problems (Misc)	R. Rein	M.M.		
2/17 57	B.T.	Hanger SARR-78	R. Rein	B.T.		
2/17 58	B.T.	Hanger CCRR-419	R. Rein	B.T.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/17 59	B.T.	Wrong tag Pent. 57	B. Walters	B.T.		
2/17 60	B.T.	Penetration Tags	B. Walters	B.T.		
2/17 61	M.L.	Bolt traceability	R. Hartnett	R.H.		
2/17 62	M.L.	Cable tray support problems	M. Walsh	R.H.		
2/17 63	M.L.	Cable tray support problems	M. Walsh			
2/17 64	M.Q.	Support F-S24 Undersize weld	R. Rein			
2/17 65	M.M.	CCRR-304 & 302	R. Rein	M.M.		
2/17 66	M.M.	CCRR-908 & 904	R. Rein	M.M.		
2/17 67	M.M.	CCRR-46	R. Rein	M.M.		
2/17 68	RGP	XTMRS - Leave/return data	P. Pitman	R.B.		
2/18 69	B.T.	MSRR 228	R. Rein	B.T.		
2/18 70	B.T.	Water in recessed embed	J. Debruin	B.T.		
2/18 71	B.T.	Welders/Test Shopt	S. Cockrell			
2/18 72	R.J.	Flex Couplings on penetrations	M. Walsh			
2/18 73	R.J.	Conduit ID penetrations	M. Walsh	R.J.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/18 74	R.J.	Ground Motor - CCW Pump B	M. Walsh	R.J.		
2/18 75	F.D.	Sight Class - Leaking	M. Wise			
2/18 76	R.S.	Regen. HX Bolt problems	B. Carns	R.S.		
2/18 77	RAH	ASTM A-36, 1975				
2/18 78	F.D.	Welder Qual. Merc.	P. Pitman/L. Lubinski			
2/18 79	R.J.	Conduit Covers	M. Walsh	R.J.		
2/18 80	G.K.	Conduit	M. Walsh	R.J.		
2/18 81	G.K.	Fire Stop Material	M. Walsh	G.K.		
2/18 82	G.P.	Conduit Sep. Criteria	M. Walsh	G.P.		
2/18 83	R.L.	F&M Procedures	P. Pitman	R.H.		
2/18 84	R.L.	PT's	GEO	R.L.		
2/18 85	D.G.	MTS - Open NRC"s	MTS	D.G.		
2/18 86	R.J.	Conduit 30609C-SB Not marked	M. Walsh	R.J.		
2/18 87	M.M.	Ut Hilti	GEO		783-6156 Randy	
2/18 88	G.K.	Copy of QAI 28	P. Pitman	G.K.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/18 89	G.K.	Incorrect marking	M.W.	G.K.		
2/18 90	B.T.	Ebasco Welding procedure problem	S. Cockrell	B.T.		
2/18 91	B.T.	T&B Welding Problem (Proc.)	S. Cockrell	B.T.		
2/18 92	B.T.	Record Problems	QAIRG	B.T.		
2/18 93	R.J.	1D-30517D-SA (CP-8)	M.W.	R.J.		
2/18 94	R.J.	Valve VA 2CS-#G09B-Doc.	M.W.	R.J.		
2/18 95	R.J.	P204-SA @ PP2154 (Interdiscipline criteria)	M.W.	R.J.		
2/18 96	G.K.	Bolts for Mounting Rosemount Xmtrs	J.D.	G.K.		
2/18 97	R.J.	NS Conduitoner S/R MCC	M.W.	R.J.		
2/18 98	R.J.	Separation Problems	M.W	R.J.		
2/18 99	F.D.	Am. Bridge Welder	P. Pitman			
2/18 100	B.T.	T&B Welder Stamps	L.R.	B.T.		
2/18 101	B.T.	Impact temps on MS/FW Lines	J. Debruin	B.T.		
2/18 102	R.J.	Boxes not covered	M.W.	R.J.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/18 103	R.J.	Unidentified conduit	M.W.	R.J.		
2/18 104	R.L	Dravo Stamp control	S.C.	R.L		
2/18 105	D.C.	Dwg. G 765-S02	P. Pitman			
2/18 106	R.J.	Clarification of Elec.	M.W.	R.J.		
2/18 107	M.M.	RCSR-221	R. Rein			
2/18 108	M.M.	CCRR-3041	R. Rein	M.M.		
2/18 109	M.M.	Discrepancies Noted		M.M.		
2/18 110	B.M.	Dealing with conduit	J.D.	R.J.		
2/18 111	B.M.	C202E-SB is less than 1"	J.D.	R.J.		
2/18 112	B.M.	Cables in CLOLD-SB	M.W.	R.J.		
2/18 113	B.M.	Nema ratings for SWGR	M.W.	RGK		
2/18 114	N/A	C203B-NA P.P. = 1974	M.W.	R.J.		
2/18 115	W.S.	CCRR-1379 & 1381	J.D.	B.T		
2/18 116	W.S.	Need BP Vendor drawing	S.C.	W.Sperko		
2/18 117	W.S.	Impacts on WP10.1.14	S.C.	B.T.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/18 118	Compton	Requests an 8:30 meeting	R.B.			
2/18 119	D.F/B.M.	Meeting with Ebasco E-55E	R.B.			
2/18 120	W.S.	RCB-4.00 Elv. struts	J.D.			
2/18 121	D.G.	MIS-DN's Civil	F.M.			
2/18 122	M.M.	Watertraps (RAB)				
2/18 123	M.M.	MSSR 245				
2/18 124	B.T.	SIA-1033	J.D.			
2/18 125	B.T.	SIRR-3022	J.D.	B.T.		
2/18 126	G.K.	Doc. Pkgs. - CCW System	L.L./G.K.	Pulled/ready		
2/18 127	G.K.	Doc. Pkgs. - Maint.-CCW Sytem	J.McGaha			
2/18 128	G.K.	Doc. Pkgs. - Elec. Supports	L.L.	Pulled/ready		
2/18 129	M.M.	MSRR-270 Discrepancies	R.R.	M.M.		
2/18 130	RJ/GK	Electrical Separation Violations	J.D.	R.J.		
2/18 131	G.K.	Interdiscipline Criteria Violation	J.D.			
2/18 132	G.K.	Unsupported Box. B3487	M.W.	M.W.		

CIR. NO.	FROM:	SUBJECT:	FORWARDED TO:	RESPONSE: RECVD:	RESPONSE FRWDED:	REMARKS:
2/18 133	G.K.	Handwheel hanging with wire	C.D.			Removed
2/18 134	D.C.	Request for Dwg. (G538)	P. Pitman			
2/18 135	B.T.	Paint Lubrite SIRR-417	R.R.	B.T.		

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - JOE DAVIS LETTER - DECEMBER 9, 1982 - RECOMMENDS COMPREHENSIVE REVIEW OF CIVIL/STRUCTURAL DOCUMENTATION

RESPONSE - JOE DAVIS FOLLOW-UP LETTER - DECEMBER 22, 1983

"IN SUMMARY, MY REVIEWS OF NONCONFORMANCE REPORTS AND RELATED CORRESPONDENCE INDICATES THAT ITEMS ADDRESSED IN MEMORANDUM DATED DECEMBER 9, 1982 HAVE BEEN ADEQUATELY ADDRESSED AND/OR ARE BEING CORRECTED IN ACCORDANCE WITH EBASCO'S PROGRAM.

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - JULY 7, 1983 MEETING - RECOMMENDS ALL CONCRETE PLACEMENT PACKAGES BE REVIEWED. ALSO RECOMMENDS REVIEW OF SOILS PACKAGES.

CONCRETE

RESPONSE - JULY 11, 1983 - LP&L MEETS WITH EBASCO - DECISION MADE TO REVIEW ALL CONCRETE PLACEMENT RECORDS

- AUGUST, 1983 - REVIEW OF CONCRETE PLACEMENT PACKAGES BEGINS
- REVIEW IS 95% COMPLETE AT THIS TIME
- NCR'S HAVE BEEN WRITTEN

BACKFILL

- BACKFILL RECORDS HAVE BEEN PREVIOUSLY REVIEWED BY EBASCO QA
  - RECORDS WERE REVIEWED TO:
    1. ASSURE COMPLETENESS OF RECORDS
    2. VERIFY EXISTENCE OF REQUIRED RECORDS
    3. VERIFY RECORDS PROPERLY ORGANIZED BY:
       A. ELEVATION
       B. FILL NO. (7 FILLS)
    4. APPROXIMATELY 50% SAMPLE REVIEWED FOR TECHNICAL ADEQUACY
       A. DENSITY TESTS
       B. PARTICLE SIZE ANALYSIS
       C. PROCTOR TESTS (MAXIMUM DENSITY DETERMINATION)
- DUAL INSPECTION EFFORT BY J.A. JONES AND EBASCO
- NO NCR'S WERE IDENTIFIED

LP&L QA

- LP&L QA CURRENTLY REVIEWING CONCRETE AND BACKFILL RECORDS

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - HARSTEAD WAS NOT AWARE OF DEFICIENCIES - MIGHT HAVE ARRIVED AT DIFFERENT CONCLUSION.

RESPONSE - HARSTEAD WAS GIVEN COPIES OF SCDs RELATED TO THE MAT

- FILES WERE AVAILABLE FOR REVIEW BY HARSTEAD
- HARSTEAD SUBSEQUENTLY HAS REVIEWED ALL BASEMAT PLACEMENTS AND RELATED DOCUMENTATION
- JANUARY 9, 1984 HARSTEAD REPORT - EARLIER CONCLUSIONS REMAIN UNCHANGED.

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - DEFICIENCIES NOT REPORTED TO NRC

RESPONSE - DEFICIENCIES WERE IDENTIFIED ON NCR'S

- NCR'S WERE REVIEWED FOR REPORTABILITY IN ACCORDANCE WITH APPROVED WRITTEN PROCEDURES
- LP&L CONSTRUCTION QA REVIEWS NCR'S
  - THOSE THAT APPEAR TO BE SIGNIFICANT ARE GIVEN ADDITIONAL ATTENTION
- LP&L RECENTLY CONDUCTED AUDIT OF APPROXIMATELY 1100 NCR'S (1976 - 1984)
  - AUDIT IDENTIFIED A FEW NCR'S THAT NEED FURTHER REVIEW

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - INSPECTORS NOT CERTIFIED (J.A. JONES)

RESPONSE - REVIEW OF NCRS AND INSPECTOR QUALIFICATION FILES INDICATES NO SIGNIFICANT PROBLEMS WITH CERTIFICATION OF INSPECTORS

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - NOTICEABLY DIFFERENT SIGNATURES ON INSPECTION/TEST REPORTS

RESPONSE - CASE ONE INVOLVES 5 INSPECTOR'S INITIALS AND 13 PAGES OF DAILY CADWELD INSPECTION REPORTS

- CASE ONE DISPOSITION:

RESULTS - 4 PAGES SIGNATURES/INITIALS ARE AUTHENTIC

- 4 PAGES SIGNATURES/INITIALS ARE POSSIBLY AUTHENTIC

- 5 PAGES SIGNATURES/INITIALS APPARENTLY NOT THOSE OF THE INSPECTORS

- REGENERATED DOCUMENT DUE TO DAMAGE TO ORIGINAL

- [illegible]SPECTORS WORKED AS TEAM

- [illegible]E INSPECTED

- [illegible]E RECORDED

- BACKUP DOCUMENTATION IS AVAILABLE

- WHERE QUESTIONABLE INITIALS EXIST, AUTHENTIC SIGNATURE OF INVOLVED INSPECTOR APPEARS ON CADWELD MAP,

- SURVEILLANCE INSPECTIONS BY EBASCO

- J.A. JONES PREPLACEMENT INSPECTION

- EBASCO PREPLACEMENT INSPECTION

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - SYSTEMATIC PROGRAM TO "DOCTOR" OR "LAUNDER" QA RECORDS

RESPONSE - RECORDS ARE BEING REVIEWED AND CORRECTED IN ACCORDANCE WITH APPROVED PROCEDURES.

- NCR'S ARE WRITTEN TO DOCUMENT DEFICIENCIES

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - RECORDS WERE CHANGED WITHOUT REINSPECTION. DRAWINGS WERE CHANGED TO REFLECT "AS IS" INSTALLATION.

RESPONSE - ~~A~~ NOT ALL DOCUMENTATION DEFICIENCIES ~~[redacted]~~ REQUIRE REINSPECTION.

- SOME DOCUMENTATION DEFICIENCIES DO REQUIRE REINSPECTION
- "AS IS" COMMONLY CALLED AN "AS-BUILT"
  - AS-BUILTS ARE REVIEWED BY ENGINEERING PERSONNEL FOR ACCEPTABILITY

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - INSPECTOR QUALIFICATIONS FOR SIX CONTRACTORS IN QUESTION, MERCURY & T-B IDENTIFIED.

RESPONSE - MERCURY - HAS BEEN AUDITED BY LP&L AND NRC SEVERAL TIMES. NO SIGNIFICANT PROBLEMS IDENTIFIED

- IN THE PROCESS OF OBTAINING RECORDS FROM MERCURY

- COMPLICATED BY LAWSUIT

- T-B - NO KNOWN PROBLEMS

LP&L QA

- AUDITING OTHER CONTRACTOR'S INSPECTOR QUALIFICATIONS

- NO SIGNIFICANT PROBLEMS IDENTIFIED

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - SERIOUS PROBLEMS IN WELDING AND BOLTING OF STRUCTURAL STEEL

RESPONSE - REPORTED TO NRC ON TWO OCCASIONS

- SCD #73 (4-11-83), "A-B RCB STRUCTURAL STEEL WELDING DEFICIENCIES"
- SCD #78 (4-28-83), "A-B STRUCTURAL STEEL DEFICIENCIES"

- CORRECTIVE ACTION
  - FINAL REPORT TO NRC SCHEDULED FOR MARCH 9, 1984

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - NONCONFORMANCE REPORTS CLOSED WITHOUT SUBSTANTIATING EVIDENCE

RESPONSE - LP&L CONSTRUCTION QA REVIEWS NCR'S ON A REGULAR BASIS

- EBASCO CONDUCTING AUDIT TO RECHECK NCR'S FOR PROPER CLOSURE.
- LP&L QA IS MONITORING EBASCO'S AUDIT

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - NOTICEABLY DIFFERENT SIGNATURES ON INSPECTION/TEST REPORTS

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - INITIMIDATION OF QA/QC PERSONNEL

RESPONSE - NOT TOLERATED

- CONSTRUCTION PERSON FIRED. IN ONE CASE
- NO EVIDENCE OF INTIMIDATION FROM THE RECENT INTERVIEWS OF ALL ONSITE QA/QC PERSONNEL

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

- ESTABLISHED HOTLINE - POSTERS THROUGHOUT SITE
  - INSERTS IN ALL SITE PAYROLL CHECKS
  - NO CALLS AS OF THIS DATE

- CONDUCTED INTERVIEWS OF OVER 400 QC/QA PERSONNEL
  - RESULTS
    - (83%) IDENTIFIED NO CONCERNS
    - (5%) IDENTIFIED MINOR CONCERNS
    - (13%) IDENTIFIED CONCERNS WHICH WILL TAKE SOME INVESTIGATION TO ADDRESS.
    - (7%) CHOSE TO REMAIN ANONYMOUS

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - NONCONFORMING CONDITIONS IN MERCURY, T-B, F&M HANGERS

RESPONSE - TOMPKINS-BECKWITH

- SCD #60, (7-1-82) "TURNOVER DOCUMENTATION & INADEQUATE HANGER WELDS"
- FINAL REPORT TO NRC SCHEDULED FOR MARCH 16, 1984.
- HANGERS ONLY
- PIPING ACCEPTABLE

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - MATERIAL TRACEABILITY PROBLEMS

RESPONSE - HAVE HAD SOME TRACEABILITY PROBLEMS

- THESE PROBLEMS HAVE BEEN DOCUMENTED ON NCR'S
- FOR ASME CODE ITEMS, THE DISPOSITION MUST BE ACCEPTED BY AN ASME THIRD PARTY INSPECTOR (ANI)
- ALL SAFETY RELATED MATERIAL ON THE JOB IS CERTIFIED MATERIAL
- IF MATERIAL IS DEFECTIVE, IT IS REMOVED

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - AT THE OUTSET LP&L WAS SINCERE, LATER WHEN PROBLEMS WERE FOUND THEY WANTED TO IGNORE THEM.

RESPONSE - NOT TRUE - IF ANYTHING, LP&L QA HAS GOTTEN TOUGHER AS TIME HAS GONE ON.

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - MERCURY - SCD #57 PROBLEMS

RESPONSE - TUBING

1. AS-BUILT DRAWING DID NOT REFLECT THE INSTALLED FIELD CONDITIONS.
2. INSTALLED CONDITIONS WERE NOT PER THE SPECIFICATION REQUIREMENTS & NOT IDENTIFIED:
   A. IMPROPER SLOPE
   B. BOUND-UP TUBING RUNS WHICH WOULD NOT ALLOW PROPER THERMAL EXPANSION
   C. DAMAGED TUBING - KINKS, SCRATCHES, ARC STRIKES.

- SUPPORTS

1. AS-BUILT SUPPORT TYPES ON DRAWINGS, DOCUMENTATION, & IN THE FIELD DID NOT MATCH.
2. WRONG SUPPORT USED IN INSTALLATION.
3. SUPPORTS - BOLTING & EXPANSION ANCHOR INSTALLATIONS.

- CORRECTIVE ACTION

FINAL REPORT TO NRC SCHEDULED 02/15/84.

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3

ITEM - TOMPKINS - BECKWITH - SCD #60 PROBLEMS

RESPONSE - HANGER DOCUMENTATION

1. AS-BUILT HANGER DRAWINGS (RED-LINED) DID NOT IDENTIFY ALL WELD SYMBOLS ON THE DRAWING.
2. WELD INSPECTION RECORDS WERE INCOMPLETE.
3. WELD INSPECTION SIGNATURES WERE OUT OF DATE SEQUENCE. (FIT-UPS SIGNED OFF AFTER FINAL VISUAL WAS PERFORMED)

- HANGER WALKDOWN

1. AS-BUILT HANGER DRAWINGS (RED-LINED) DID NOT MATCH FIELD INSTALLATION

   A) WELDS DID NOT MEET AWS D1.1 REQUIREMENTS

      1) COLD LAP
      2) UNDERCUT
      3) UNDERSIZE
      4) SPATTER

   B) MISSING WELDS

   C) ORIENTATION OF HANGER 90° DIFFERENT THAN AS-BUILT

- CORRECTIVE ACTION

FINAL REPORT TO NRC SCHEDULED 03/16/84.

TFG
01/31/84

LOUISIANA POWER & LIGHT COMPANY
WATERFORD 3 SES

ITEM - FALSIFIED RECORDS

RESPONSE - THE ONLY DOCUMENTED CASE OF POSSIBLE FALSIFIED RECORDS WAS IDENTIFIED ON AN EBASCO NCR.

HEAT NUMBER (MERCURY)

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

MAY 17 1982

FOR INFORMATION ONLY

Mr. B. E. Tenzer, Director
Materials Engineering and
Quality Assurance
Ebasco Services, Inc.
Two Rector Street
New York, NY 10006

Dear Mr. Tenzer:

SUBJECT: ACCEPTANCE OF REVISION 11 TO EBASCO QUALITY ASSURANCE PROGRAM TOPICAL REPORT

We have reviewed and evaluated Revision 11 to the Ebasco Topical Report, ETR-1001, submitted with your letter of February 22, 1982 and as modified in your letter of May 3, 1982. Revision 11 reflects quality assurance program and editorial changes.

We find that this report describes a quality assurance program that meets the criteria in Appendix B to 10 CFR Part 50 and is therefore acceptable. You may implement it upon issuance. For the Ebasco quality assurance program, you need only reference this topical report in Chapter 17 of license applications. We do not intend to repeat our review of this topical report when it is referenced in an application.

Should regulatory criteria or regulations change such that our conclusions about this topical report are invalidated, we will notify you. You will be given the opportunity to revise and resubmit it should you so desire. Programmatic changes by Ebasco to this topical report are to be submitted to NRC for review prior to implementation. Organizational changes are to be submitted no later than 30 days after announcement.

Please include a copy of this letter in the report, renumber the report ETR-1001, Rev. 11A, and transmit 40 copies to the NRC. In your transmittal letter, please indicate to which plants Revision 11A will be applicable.

Should you have any questions regarding our review or if we can provide assistance, please contact Mr. John Gilray on (301) 492-4730.

Sincerely,

Walter P. Haass

Walter P. Haass, Chief
Quality Assurance Branch
Division of Engineering

8206180038

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

REISSUED 3/22/84
WITH ATTACHMENT

MAR 21 1984

Docket No.: 50-382

28010

MEMORANDUM FOR: George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

FROM: James H. Wilson, Project Manager
Licensing Branch No. 3
Division of Licensing

SUBJECT: LOUISIANA POWER AND LIGHT COMPANY MEETING

DATE & TIME: Monday, March 26, 1984
9:00 am - 12:00 noon

LOCATION: Suite 1200
Landow Building
Bethesda, Maryland

PURPOSE: LP&L Presentation of their basis for adequacy of construction of basemat

PARTICIPANTS:

NRC Staff	APPLICANT Staff
D. Crutchfield	R. Leddick
T. Novak	K. Cook
G. Knighton	W. Cross
J. Wilson	
L. Lazo	EBASCO
J. Knight	
J. Ma	W. Wittich
R. Pichumani	
S. Turk	
G. Lear	
M. Peranich	

James H. Wilson, Project Manager
Licensing Branch No. 3
Division of Licensing

cc: See next page

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1074108

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611 Ryan Plaza Drive
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QUESTIONS ON WATERFORD 3 BASEMAT
3/26 MEETING IN BETHESDA

Allegations recently reported in a GAMBIT newspaper article and in staff investigations concerning the GAMBIT article have lead to the assignment of additional reviewers to evaluate the base mat adequacy. This transmittal is a composite set of Questions from the reviewers, and is intended to faciliate LP&L's preparation for the meeting on March 26, 1984 in Bethesda.

1. How many nonconformance reports were issued on the basemat? How many relate to poor concrete placement practices? What were corrective actions taken? Provide justification to substantiate your position that these practives could not have lead to the development of cracks or localized porous zones which may be the cause of water intrusion.

2. Where was water table when 1977 cracks were discovered?

3. Is there any evidence of convex curvature due to ring wall loading?

4. Provide X-Section maps of mat flexure over time period zero to present.

5. Provide complete documentation of groundwater control and foundation heave from the start of dewatering until the present time. Include the history of soil excavation and backfill beneath the mat.

6. Provide the foundation loading history under each block during construction of the mat and walls. This should include the distribution of pressure under each block. Include the location and history of loads due to backfilling adjacent to foundation blocks.

7. Provide complete settlement history for each block from initial pouring until the present time.

8. Analyse and discuss the relationship of the above variables (Qs 5-7 above) on the history of all observed mat cracks and leaks.

9. What basis is there for accepting the adequacy of construction of the first 3 blocks?

10. If engineering judgement was involved in accepting those blocks, what was the basis for that judgement? Where is it documented?

11. What corrective actins were necessary for the first 3 blocks? What corrective actions were taken, and provide specifics for each pour? Where are these actions documented?

12. Were any cracks discovered in 1977 outside of the ringwall? Provide documentation. If none were discovered outside ringwall why not infer that these three blocks were poorly constructed?

13. Did Kominsky recopy illegible cadweld records? Under whose direction? Why? What happened to the original records?

14. Provide summary of actions taken following Hill's presentation of QA deficiencies. Provide detailed report on document review undertaken and all results.

15. Provide LP&L's evaluation of adequacy of Harstead's third report. Does LP&L assert that it represents their views as well?

16. Provide specific basis for Harstead's conclusion that the doucmentation problems do not affect their prior conclusion as to basemat's strength. What documents did Hartstead review? What did he look at? Did he see the Phearson-Brigg memo? Hill's NCR's? Other NCR's?

17. Provide differential settlement contours for 6 month periods, starting from early 1977 to present.

18. According to the settlement contours shown in figure 2.5.118, the curvature is concave downward in both directions. This implies cracks on the top surface in both directions which would not penetrate all the way through.

    In view of the above why did the water seep thru? Why dosen't the crack pattern match the given differential settlement?

    It is possible that there are localized convex surfaces on the mat which are not shown in the figure (the grid is quite rough)?

19. Please provide all soil properties (re. results of soil tests, reports confirmed compression test results, boring records, shear modulus etc).

20. Provide all concrete property data, rebar data, placement data (ie also detailed as built drawings of mats).

21. Provide any revised calculations that include settlement effects.

22. Is the Phearson memo accurate? What kind of actions has LP&L taken to respond to and resolve his allegations?

23. Memos of inspectors Hill and Davis, as reported in GAMBIT, stated that they found a broad range of deficiencies in virtually every record package examined and the situation demanded a complete review of all civil/ structural records. What is your response to this allegation?

24. GAMBIT reported that there was falsification on cadweld splices of reinforcing bars. What is LP&L's response to this allegation?

25. What were the problems in the seven NCR's on QA deficiencies in concrete, as mentioned in the last column on page 28 of GAMBIT, and how were they disposed of?

26. What were the problems of soils, waterstops, cadweld splices, and the placement of concrete, as mentioned in the third column on page 22 of Gambit, and how were they resolved?

27. Do the allegations described in Phearson's memo and the Gambit article reflect generally what happened during the construction of the mat? If yes, how would these non-conformance of QA/QC requirements affect the structural integrity of the mat? If not, identify those allegation which are unfounded and the basis thereof.

28. In light of the allegations, documented NCRs, and QA/QC deficiencies, what has LP&L done or what does LP&L intend to do in order to resolve the allegations and deficiencies?

29. Does maintain that the mat possesses adequate capability to resist the design loads and confirm to the criteria commited to in the FSAR despite all the deficiencies and allegations listed? If yes, provide the supporting technical basis. If not, propose specific means to resolve them and thus render the mat acceptable to the staff.

    In any case, the "as-built-mat" should be shown by the applicant, if feasible, to maintain adequate safety margins to perform its safety function and maintain its structural integrity.

    A quantitative demonstration of the "as-built" mat capacity, including adoption of test, monitoring and strengthening programs, if needed, should be provided for staff review.

30. What is LP&L's technical rationale for explaning what has happened (including, water seepage, potential through-thickness cracks, predominently one-way cracks within containment region, uneven settlements, etc) to the mat? What monitoring program(s) has been implemented is underway? What are the results of these programs? Did the monitoring data show that both the cracking and water seepage problems have stabilized and there is no sign of continued degration? What improvements, could be applied to the on-going programs?

31. Are there any known voids of some significant size to affect the mat structural integrity? If yes, what are the sizes (best estimates) and extent of these voids? What is LP&L's suggested diposition to the issue of voids. If no disposition is needed, what is the technical basis?

32. Conservatively assuming the existence of extensive through-cracks of the mat, assess the impact of the presence of water on the long-term stuctural integrity of rebars and mat capacity. Also assess the same impacts due to other potential corrosive elements.

CIVIL AND STRUCTURAL CONSTRUCTION

Concrete Records

I. A. Inspection Scope

The records associated with concrete placements were reviewed for conformance to the construction specifications and requlatory requirements. the documentation review included records of inspection and in-process testing. the records covered fifteen (15) placements from the base mat, reactor aux. bldg., shell wall, compondent cooling water system and the dome. (See Table I)

B. Inspection Findings

The following are deficiencies identified by the NRC "CAT" inspector.

1. The testing frequency of concrete of concrete (air/slump/conc. temp./ unit weight) did not meet job requirements of a test every 50 cy ± 10 of concrete placed on some placements.
2. Test cylinders were not taken at the specified interval of every 150 cy ± 10 at some placements.
3. Placing documents missing from some concrete placement packages.

1a. The following concrete placement packages which were reviewed were found that the testing frequency of the placement was not always met per job requirements.

(1) 499-S02-6 (No Air)
(2) 499-So1-13A (No Air/Slump/Conc. Temp./Unit Wt.)
(3) 558-S01-1 (No Air/Slump/Conc. Temp./Unit Wt.)

All with the exception of No. 1 were resolved during review.

2a. The following concrete placement packages which were reviewed were found that the frequency for taking cylinders was not always met per job requirements.

(1) 511-5

3a. The following concrete placement packages which were reviewed were found to have some documents missing from the package.

(1) 499-S02-6 (Concrete Data Record)
(2) 499-S03-13B (Batch Tickets)
(3) 499-S04-1A3 & 1A4 (No FCR written for unacceptable air and slump)
(4) 499-S04-8A1 (No record of extended cure per NCR #W3-236)

II. Material/Equipment Testing

A. Inspection Scope

These records covered twelve (12) material tests and testing of ninteen (19) concrete trucks plus the central mixer (See Table II). (See IIa)

B. Inspection Findings

The material/equipment testing records were found to generally meet the constuction specification/regulatory requirements. The records showed evidence of the proper frequency of testing and the satisfaction of acceptance criteria.

III Cadwelding

A. Inspection Scope

The records associated with cadwelding were reviewed for conformance to the construction specifications and regulatory requirements. Inspection of the cadwelds were made to assure proper centering of the cadweld sleeve, no excessive void, no slag in the tap hole and proper identification of the cadwelder and sleeve. (See Table III)

B. Inspection Findings

The following are deficiencies identified by the NRC "CAT" inspector.

1. A production test specimen was not shot in the first ten (10) of the #14 Horizontals (44-55) for cadwelder #5W. A sister test specimen was shot instead of a production even though it seems that a production could have been shot.

2. A test specimen was not taken in the first ten per job requirements for the following size/position/cadweld number for cadwelder #J97.

   (1) 11 Vertical (99-111)
   (2) 8 Horizontal (81-98)
   (3) 6 Horizontal (156-163 & 165-177)

3. Cadwelder #203W did not shoot a test specimen in the first ten (10) cadwelds shot for #14 Horizontals and #6 Verticals

IV Backfill/Claim Shell Filter Blanket

A. Strip #2 of the claim shell filter blanket was reviewed for conformances to the construction specifications.

B. The claim shell filter blanket records were found to generally meet the construction specifications. The records showed evidence of the proper frequency of testing and the satisfaction of acceptance criteria.

V. Concrete Chip-outs

The following observations were made regarding three (3) chip-outs:

Inspected two (2) chip-outs per FCR AS-2626 at "1A" & "J" located on -30.00 elevation in the Reactor Aux. Bldg. for reinforcement of the specied size and grade, properly located, and secured in accordance with drawing #G570S04 & #G569S01. The inspection revealed that the reinforcement was satisfactory in accordance with the noted drawings.

Inspected one (1) chip-out per NCR #W3-5146 at "P" & "10A" located on + 31.75 elevation at the Reactor Aux. Bldg. exterior wall for the reinforcement in the chip-out area in accordance with drawings G563S02 & G564S06. The inspection revealed that the reinforcement was satisfactory in accordance with the noted drawings.

TABLE I

CONCRETE PLACEMENT PACKAGES

Location	Pour No.	Placement Date
Base Mat	499-S02-6	12/2 & 3/75
	499-S03-13B	3/30/76
	499-S01-13A	4/16/76
Reactor Aux. Bldg.	570-S01-1A	
	570-S01-J8A	6/25/76
	558-S01-1	9/10/77
Fuel Handling Bldg.	593-S01-6AA	10/8/76
	588-6	6/16/77
	593-S04-6A	10/6/77
Shield Wall	511-5	5/7/76
Compondent Cooling Water System	499-S04-8A1	10/15/76
	499-S04-1A3 & 1A4	6/27/77
Dome	521-3A & 3B	10/17 & 18/79
	521-9A & 9B	1/3/80
	521-10A & 10B	1/10/80

TABLE II

Material Testing

TEST	Freq.	75 10 11 12	1976 1 2 3	4 5 6	7 8 9	10 11 12	1977 1 2 3	4 5 6	7 8 9	10 11 12	1978 1 2 3	4 5 6	7 8 9	10 11 12	1979 1 2 3	4 5 6	7 8 9	10 11 12	1980 1 2 3	4 5 6
GRADATION	D	10* 11*		6*		10*	1*				3/1 to 3/8	4/13 to 5/8 21 13						10/3-11 11/12-20 12/21-31	1* 2* 3*	4*
ORGANIC IMPURITIES	W	11* 12*	1* 2* 3*	4* 5* 6*	7* 8* 9*	10* 11* 12*	1* 2* 3*								1* 2*					
CLAY LUMPS & FRIABLE PARTICLES	M				8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2	4
MATERIALS FINER THAN #200 SIEVE	D					10*	1*				3/1-8	4/13-21 5/18-23						10/3-11 11/12-20 12/21-31	1* 2* 3*	4*
SPECIFIC GRAVITY & ABSORPTION	W	11* 12	1* 2* 3*	4* 5* 6*	7* 8* 9*	10* 11* 12*	1* 2* 3*								1* 2*					
PERCENT VOIDS	W	11* 12*	1* 2* 3*	4 5 6	7* 8* 9*	10* 11* 12*	1* 2* 3*								1* 2*					
LIGHTWEIGHT PIECES	M				8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2	4
SOFT FRAGMENTS	M				8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2 3	4 5 6	7 8 9	10 11 12	1 2	4
L.A. ABRASION	SA					12	3			10		4	9		3		9		3	
FLAT & ELONGATED PARTICLES	SA				9		3			10		4	9		3		9		3	
SOUNDNESS	SA				9		3		9			4								
MOISTURE	D	10* 11* 12*	1*			12*		5*					9					10* 11*		5*

* Denotes entire month

TABLE IIa

Mixer Uniformity Testing

TRUCK # \ DATE	76 10 11 12	1977 1 2 3	4 5 6	7 8 9	10 11 12	1978 1 2 3	4 5 6	7 8 9	10 11 12	1979 1 2 3	4 5 6	7 8 9	10 11 12	1980 1 2 3	4 5 6	7 8 9	10 12 11	1981 1 2 3	4 5 6	DATE TRUCK USED	2/25/77	9/1/78	3/29/79	4/27/79
100			5																					
102	12		5																		X			
103			5		10																			
104	12		5		10																			
105	12	3	5		10																			
106			5		10																			
107	11		5		10																			
110		3	5		10		4		10			9				7	11					X	X	X
112	11		5		10																X			
113	11		5		10		4		10			9		3							X	X	X	X
114	11		5		10		4		10		4	9	10		4						X			
119	11		5		10		4	9	10			9		3										
120	11		5		10		4		10		6		12											
126						2		8		2		8						1						
127				9				9		3		9		3	4		10	3				X		
128				9		2		9			6													
129							4		10		6													
130								8		1		7				7	11	1	4			X		X
131						2												3	4					
Central Mixer	12		4		10		4																	

TABLE III

CADWELDING

Cadwelder ID.#	Size/Position/Qty.			Test Specimens Production/Sister		Qualification Date	
3W	18	H	324	7		(18H)	10/7/75
	11	V	82		5	(18V)	1/30/76
	18/11	H	65	5			
5W	18	H	43	3		(18H)	10/7/75
							10/23/75
	18	V	88		5	(18V)	5/17/75
							6/8/76
							7/27/76
							11/15/76
	18/11	V	21	1			
	11	V	16				
	11	H	12		1		
	9	V	50		2		
	8	V	5				
J97	18	H	622	12		(18H)	10/23/75
							3/9/76
							1/26/78
	18/11	H	100	2			
						(18)	1/26/78
203W	11	H	288	3	10	(14H)	3/28/78
	14	H	48	1			
	6	V	31		1		
	6	H	1				
	11	V	2			(11V)	7/11/78
255W	11	V	133		3	(11V)	1/16/79
	11	H	64		3	(11H)	1/16/79
							4/5/79
							4/30/79
E14*	(11H)	11,13,15,17,19,21, 22,23,24,25,26 & 27			12	(11H)	3/10/84
E15*	(11H)	4,5,8,21,22,24,27, 31,32,34,37,38,39,40 &41			15/27	(11H)	1/25/84

* The noted cadwelds were inspected by the NRC "CAT Inspector and were found to meet the construction specifications and other commitments.

LOUISIANA
POWER & LIGHT
142 DELARONDE STREET
P.O. BOX 6008 • NEW ORLEANS, LOUISIANA 70174 • (504) 366-2345
MIDDLE SOUTH UTILITIES SYSTEM

July 9, 1979

LPL 11505
Q-3-A20.03.13
3-A1.01.04

Mr. Karl V. Seyfrit, Director Region IV
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76012

SUBJECT: Waterford 3 SES
Docket No. 50-382
I.E. Bulletin 79-02

Dear Mr. Seyfrit:

In response to the subject bulletin, the design and installation of base plates using concrete expansion anchor bolts to support Seismic Category I piping have been reviewed and items 1 through 4 of the same bulletin are addressed as follows:

1. The base plate flexibility is accounted for in the calculation of anchor bolt loads. The bolt loads are calculated using plate on elastic foundation theory utilizing ANSYS finite element computer program. The base plate design has accounted for the requirements of minimum anchor spacing and edge distance to assure 100% effective anchor performance. Total allowable load of the base plate under axial, shear and bending forces is determined using the following interaction formula:

$$\frac{\text{Actual T}}{\text{Allowable T}} + \frac{\text{Actual V}}{\text{Allowable V}} + \frac{\text{Actual M}}{\text{Allowable M}} \leq 1.0$$

where T = axial force

V = shear force

M = bending force

The allowable axial, shear and bending forces are established separately based on the maximum bolt allowable tension and shear loads.

7908150 150
PDR

The base plates, which have already been installed, were designed originally assuming rigid plate action in calculating bolt loads. However, all of these base plates are being reviewed and their bolt loads recalculated to include the effects of plate flexibility as discussed above.

From a design review of these base plates which have already been installed, it was found that the majority of the plates (approximately 85%) have sufficient design conservativeness, and will not require any design modification. However, the balance of the plates, approximately 80 of them, may require a design modification. The modification is to add stiffener plates to the base plate so that plate prying action on the bolts will be minimized. The detailed design for the modification is scheduled to be completed by October 1, 1979.

2. This project has used only wedge type concrete expansion anchor bolts. The minimum factor of safety between the bolt design load and the bolt ultimate capacity is four (4); the bolt ultimate capacity is based on static load test on concrete with 4000 psi 28 - day compression strength.

3. The bolts are designed to withstand seismic loads. All the bolts at the time of installation are torqued to develop a bolt tension equal to 115% of the maximum design load. The torque is applied using a calibrated torque wrench as specified by the bolt manufacturer. Wrench calibration is based on results of on-site tests which have been reviewed and accepted by the design engineer.

4. The QC documentation for each base plate has included the number of anchor bolts, bolt size, embedment length, and verification that the correct torque was applied. The results of audits performed of records made since October 1977 to April 1979 indicate the installations of the work to be acceptable and in accordance with design requirements.

If you have any questions, please advise.

Yours very truly,

D. L. Aswell

DLA:JEH:smd

cc: U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, D. C. 20555

LOUISIANA
POWER & LIGHT

November 21, 1979

LPL 12477
0-3-A20.03.13

Mr. Karl V. Seyfrit, Director
U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive Suite 1000
Arlington, Texas 76011

SUBJECT: Waterford 3 SES
Docket No. 50-382
IE Bulletin 79-02 Revision 1

REFERENCES: (1) Telecon of November 20, 1979 between Mr. Stewart, Region IV, NRC, and Mr. A. Jones, LP&L
(2) Letter LPL 11505 dated July 9, 1979

Dear Mr. Seyfrit:

In response to the referenced telecon we have found that reference (2) adequately discussed the subject revision with the exception of item 4-b, for which this amplification is provided.

We would like to further address the QA documentation requirements for proper bolt installation. As we have addressed before, the QC documentation for each base plate has included the number of anchor bolts, bolt size, embedment length, and torque magnitude applied. In addition, plate bolt hole size, bolt spacing and edge distance to the side of a concrete member are specified on a design drawing. Any deviations from the drawings which are found at the time of installation are fully documented. All deviations are reviewed and evaluated by the design engineer.

As it was mentioned in the previous response, this project has used only wedge type concrete expansion anchor bolts. Therefore, the bolt parameters - thread engagement, and full expansion of the shell are not discussed.

We trust this has clarified the further concerns of the revised bulletin. If you have any questions, please advise.

8002110545

Yours very truly,

D. L. Aswell

DLA/JFR/ddc

cc: U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, D. C. 20555

LOUISIANA POWER & LIGHT

January 8, 1980

LPL 12819
O-3-A20.03.13

Mr. Karl V. Seyfrit, Director, Region IV
U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
IE Bulletin No. 79-02
(Revision No. 2)

REFERENCES: (1) Letter LPL 11505 dated July 9, 1979
(2) Letter LPL 12477 dated November 21, 1979

Dear Mr. Seyfrit:

In response to the subject bulletin, we would like to further confirm our responses to the original bulletin as well as Revision No. 1 concerning the design and installation of base plates, using concrete expansion anchor bolts to support Seismic Category I piping systems. As previously addressed, the following has been further verified:

1. The base plate flexibility is accounted for in the calculation of anchor bolt loads.

2. This project has used only wedge type concrete expansion anchor bolts.

3. The bolts are designed to withstand seismic loads.

4. The QC documentation for each base plate has included the number of anchor bolts, bolt size, embedment length and torque magnitude applied. In addition, plate bolt hole size, bolt spacing and bolt edge distance in a concrete member are specified on a design drawing.

8003060240 299

Also as addressed in the response to IE Bulletin 79-14, the as-built piping support locations will be documented by the piping contractor (Tompkins-Beckwith) and a functional verification of supports will be performed by the design engineer (Ebasco). Prior to system turnover, a final check of the supporting structural elements will also be performed by the design engineer (Ebasco), to ensure the adequacy of structural strength to sustain the required support reactions as noted in IE Information Notice No. 79-28.

As requested of holders of construction permits, Items 5 and 6 of the subject bulletin are also addressed below:

5. This project used and will use expansion anchor bolts only in reinforced concrete walls to attach piping supports in seismic Category I systems. Therefore, no further discussion will be pursued.

6. This project has used and will use expansion anchor bolts only to attach base plates to reinforced concrete structure for piping supports in Seismic Category I systems. This project has not used and will not use expansion anchor bolts to connect structural steel shapes directly to the supporting structure. Therefore, no further discussion will be pursued.

If you have any questions, please advise.

Yours very truly,

DL Aswell

D. L. Aswell

DLA/JFK/ddc

cc: U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Division of Reactor Construction Inspection
Washington, D. C. 20555

LOUISIANA POWER & LIGHT / 142 DELARONDE STREET • P.O. BOX 6008
NEW ORLEANS, LOUISIANA 70174-6008 • (504) 366-2345

October 31, 1983

W3P83-3256
Q-3-A20.03.13
3-A1.01.04
L.03

Mr. J. T. Collins, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Subject: Supplement 3 SER
Docket No. 50-382
IE Bulletin 79-02 Rev. 0, Rev. 1, Rev. 1 Supplement 1 and Rev. 2
Pipe Support Base Plate Designs Using Concrete
Expansion Anchor Bolts

References: 1. LP&L 11393 from D. L. Aswell to K. V. Seyfrit, dated 7/9/79
2. LP&L 12477 from D. L. Aswell to K. V. Seyfrit, dated 11/21/79
3. LP&L 12515 from D. L. Aswell to K. V. Seyfrit, dated 1/8/80

Dear Mr. Collins:

NRC IE Bulletin 79-02 referred to (1) structural failures of piping supports for [illegible]-related equipment due to improperly tightened anchor bolts and (2) the [illegible] of loads on some anchor bolts resulting from rigid plate [illegible] used for the design of base plates.

In reference 1, LP&L responded to the NRC by stating:

"Upon a design review of these base plates which have already been installed, it was found that the majority of the plates (approximately 85%) have sufficient design conservativeness and will not require any design modifications. However, the balance of the plates, approximately 80 of them, may require a design modification."

In this same, we would like to supplement our earlier response by documenting the actions taken to address the above commitment:

A final design review of installed base plates revealed that 77 anchor plates might require modification. Out of the 77 anchor plates in question, 35 plates have been modified and installed; 17 plates were finally eliminated (no modification required) due to changes made in the piping hangers instead; and 25 plates became acceptable after a field verification was completed.

Based on the above information and the referenced responses to the NRC, we believe that the concerns of IE Bulletin 79-02 have been adequately addressed.

If you have any questions, please advise.

Very truly yours,

L. D. Cook
Nuclear Support and Licensing Manager

MMC/WNS/pjl

cc: Jim Wilson (NRC), G. W. Knighton, E. L. Blake, W. M. Stevenson

LOUISIANA POWER & LIGHT / 142 DELARONDE STREET • P.O. BOX 6008
NEW ORLEANS, LOUISIANA 70174-6008 • (504) 366-2345

MIDDLE SOUTH UTILITIES SYSTEM

LATEST REV. 4-17-84

April 13, 1984

ROTH S. LEDDICK
Senior Vice President
Nuclear Operations

W3K84-0842
Q-3-A35.01

Georgia:
OK on items 6 & 11.

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

SUBJECT: Waterford 3 SES
Corrective Action Plan

REFERENCE: Docket No. 50-382
Construction Appraisal Inspection
Inspection Report 84-07

Dear Mr. DeYoung:

The attached plan provides LP&L's comments and, where felt appropriate, the Corrective Action Program to address our perception of the concerns indicated during and after the Construction Appraisal Team inspection conducted during February and March of this year.

It should be noted that, in view of our objective to load fuel in mid-to-late May 1984, the efforts outlined herein are proceeding at an accelerated pace with necessary actions scheduled for completion in April and May. We hope that any modifications to our efforts required as a result of the NRC finalization of its report will have minimal impact. Comments, however, are solicited as early as possible.

Yours very truly,

R. S. Leddick

RSL/RGB/cb

cc: Mr. J. T. Collins
Regional Administrator
USNRC Region IV

8404170139

Mr. E. Blake, Mr. W. M. Stevenson

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WATERFORD 3 SES

CORRECTIVE ACTION PLAN

REPORT 84-07

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1. PROGRAM OUTLINE FOR EVALUATION OF FIELD ROUTED ATTACHMENTS TO CABLE TRAY/HVAC SEISMIC SUPPORTS

OBJECTIVE: Establish a level of confidence with regard to structural adequacy of Cable Tray/HVAC Seismic Supports when evaluated for the additional loads imposed by field routed conduit, piping, tube track and HVAC vertical supports.

PROBLEM DESCRIPTION: Procedure ASP-IV-58 was established to control the amount of additional loads imposed on engineered cable tray/HVAC seismic supports by the installation of field routed conduit, tube track, small bore nonsafety piping, and HVAC vertical supports. Due to the inconsistent application of the procedural requirements, various seismic supports have additional undocumented loads. This problem has been documented by Ebasco QA Surveillance No. EC-MECH-TK-1, which covered 25 supports all of which when evaluated were found to be acceptable.

DISCUSSION: The Cable Tray/HVAC seismic supports were conservatively designed based on a response frequency criteria. As a result, the load carrying capability of these supports is substantial. The approach to be used in resolving this concern will take advantage of the conservative Waterford design. The program is designed to ensure that support loading configurations are examined and evaluated for acceptability.

PROGRAM: The program description is as follows:

The program involves implementation of the comprehensive review described below. Cable tray/HVAC seismic supports will be subject to a field surveillance in order to find isolated cases of heavily loaded supports which should be evaluated. The program is as follows:

(1) NY Engineering will develop the maximum loading capacity for various support configurations which would envelope most of the installed supports. The maximum capacity data will be translated into typical hardware configurations, i.e., number and size of conduits which can be attached to a given support.

(2) Based on the above data, walkdown guidelines will be developed that will allow experienced Civil Structural Engineers to field survey actual installations on a case by case basis. The guidelines will be explicit in that unique variables, such as pipe support attachments, cantilevered conduit supports or cable tray attachments can be appropriately evaluated.

1. (Continued)

(3) The objective of the surveillance will be to identify cases which do not conform to the walkdown criteria, and thus require further evaluation or possible detailed as-building, and subsequent engineering analysis.

(4) Appropriate documentation will be generated to ensure that supports are field surveyed. Documentation will consist of a marked up copy of the seismic support drawings for cable trays (G-377 series) or HVAC ducts (G-922 series). Supports which are found to be in conformance with the acceptance criteria by inspection will be checked off. Seismic supports which cannot be accepted by inspection, will be documented on a standard calculation form for on-the-spot evaluation against the guidelines. Those supports which do not conform to the guidelines will be as-built in detail and an engineering analysis performed for acceptance.

The program will be administered by Ebasco Civil Engineering in accordance with approved procedures. Ebasco and LP&L QA surveillance will be conducted on a regular basis to ensure compliance with criteria and procedures. Staffing will consist of structural engineers and designers for the walkdown as well for as engineering analysis.

ASP-IV-58 is currently under revision so that all future attachments to cable tray/HVAC seismic supports will not compound the present concerns. The procedure revision requires that all future attachment requests initiates the complete review of the given seismic support to ensure that all additional loads are properly documented.

IMPLEMENTATION:

Estimated date of completion for the above program is May 15, 1984.

GENERIC IMPLICATIONS:

ASP-IV-58 delineates the mechanism to be used by various disciplines and contractors to integrate data into one system which provides status of installations on Seismic Supports. In basic terms, ASP-IV-58 is a cross-discipline procedure, rather than a convential one-contractor, single discipline procedure normally used.

Quality Assurance will analyze procedures to ascertain applicable cross-discipline, procedures requiring assessment. Assesssment will be provided by auditing applicable procedures to assure compliance.

1. (Continued)

Item 3 of this CAT report references corrective actions to be implemented to assure continued corrective actions on identified items on non-compliance committed to the NRC by LP&L. As ASP-IV-58 is in this category and the corrective action plan detailed should provide added assurance.

2. PROGRAM OUTLINE FOR EVALUATION OF ELECTRICAL RACEWAY INSTALLATION REGARDING SEPARATION REQUIREMENTS

OBJECTIVE: To establish a high level of confidence that the design installation and verification procedures at Waterford 3 ensure that physical independence of electrical systems will be achieved in accordance with the FSAR commitment to the requirements of IEEE-383-1974 as endorsed by Regulatory Guide 1.75.

PROBLEM DESCRIPTION: The B-288 series drawings detail requirements for physical separation between redundant safety related raceway and between safety related and non-safety related raceway. Installations exist for which this separation has not been provided and no documentation of acceptability has been generated. It should be noted that for installations involving conduit to tray separation, those tray runs requiring installation of tray covers are to be identified as part of installation via a walkdown of tray. The bulk of the deficiencies noted were identified because cable tray covers had not yet been installed and because procedures did not require inspection of non-safety related conduit for separation from safety related installations.

DISCUSSION: Criteria has been established by Ebasco NY Engineering for acceptability of installations by type of situation. This criteria, in conjunction with existing details for barrier installation, forms the basis for acceptance or corrective action assignment for identified discrepancies.

PROGRAM: Per existing design, separation may be achieved via the installation of tray covers, in lieu of separation of the items by spatial distance alone. For the 31,379 feet of tray to be installed in nuclear plant areas, 13,026 feet of tray cover and fittings were purchased in 1977. This material has been stored on site pending the completion of cable installation. As of April 12, 1984, approximately 11,000 feet of cable tray cover has been installed.

A walkdown is being performed on electrical raceway in nuclear plant areas to identify discrepancies in installations with respect to existing separation design requirements. Identification of tray cover requirements, which is a part of the installation program, will also take place as part of this walkdown.

2. (Continued)

PROGRAM: This program is an engineering walkdown and is performed in accordance with ASP-IV-141 and under the surveillance of LP&L Quality Assurance. Identified problems will be resolved via rework of the raceway, installation of barriers or evaluation and acceptance by ESSE.

In areas of high raceway concentration,* specific walkdowns have been performed to identify and resolve discrepancies and identify tray cover installation requirements.

* +21 Elev. Swgr Area/Pen Area, +35 Elev. Spread Room/Pen Area

Ebasco Procedure CP-764 will be revised to require a QC Inspection of non-safety related conduit installation to identify discrepancies in separation requirements. Engineering and Quality Control personnel have been trained in separation requirements. Construction supervision will be retrained in these requirements.

IMPLEMENTATION:

The engineering walkdown program for identification of separation concerns is being administered by Ebasco. Containment activities including required barrier installation will be completed by April 15, 1984. RAB activities including barrier installation will be completed by April 30, 1984.

GENERIC IMPLICATIONS:

Concerns addressed in the program outline are specific in nature and the corrective action plan addresses the concern.

3. PROGRAM OUTLINE FOR TRACKING AND REVIEW OF NRC COMMITMENTS

OBJECTIVE: To establish a high level of confidence that commitments made to NRC with regard to items of non-compliance are reviewed for generic applicability and to assure continued compliance with these commitments.

PROBLEM DESCRIPTION: There is no definitive mechanism detailing methods for tracking and verifying construction corrective action commitments for items of non-compliance. There must also be a mechanism to ensure continuing compliance.

DISCUSSION: LP&L QA is in the process of reviewing items to which LP&L has responded to the NRC, but which have not been closed by the NRC. This program will be performed within the jurisdiction of the Operations QA organization. This includes construction and operations items of non-compliance.

PROGRAM: The LP&L Operations QA Program requires that an audit be performed at least once per six months in the area of Corrective Action. The Nuclear Operations QA Section Procedures controlling the audit function to implement the Technical Specifications requirements will be revised to accomplish the following:

(1) LP&L QA will verify that corrective action for NRC Items are in fact adequate prior to issuing a response to the NRC. This verification process includes a review to determine that items of noncompliance have been reviewed for generic implications.

(2) LP&L QA will track and verify that corrective action has been accomplished by dates committed to in the response to the NRC or that the commitment date changed.

(3) The Corrective Action Audit checklist will include those items of noncompliance for which LP&L has previously responded to the NRC. The items included will be those identified between the two (2) preceding Corrective Action audits. These items will also be included within the audit checklist of the Corrective Action Audit conducted one year later to insure the corrective action for those items remain in compliance with commitments.

IMPLEMENTATION:

Procedure revision and audit of current open items of non-compliance will be completed by April 30, 1984.

3. (Continued)

GENERIC IMPLICATIONS:

None - This deals with a specific shortcoming.

4. PROGRAM OUTLINE FOR EVALUATION OF SUPPORT/RESTRAINT

QUESTIONS ASKED DURING THE "CAT" INSPECTION

OBJECTIVE: Establish a level of confidence regarding support/restraint items raised during the "CAT" Inspection such that no generic problems exist in these areas.

PROBLEM DESCRIPTION: The following items were addressed during the "CAT" Inspection.

(1) Gaps on box type restraints.
(2) Weld symbols for same size and/or flush joints.
(3) Nonconforming thicknesses of tube steel were installed (3/8" actual vs 1/2" design).
(4) Differences in actual valve weights as compared to those used in the stress analysis.
(5) Two restraints had a 3/8" diameter u-bolt and one restraint had a 1/2" diameter u-bolt but all had the same Bergen Paterson part number 283.

DISCUSSION: The above items were addressed during the "CAT Inspection.

(1) Gaps that were identified by the "CAT" team member were reviewed and verified as being recorded and evaluated in NCR-W3-2644. No further action is required in this area.
(2) Weld requirement symbols (for CCRR-1379 & 1381) questioned by the CAT Team were defined.
(3) The nonconforming tube steel thicknesses (3/8" actual vs 1/2" design) identified during the "CAT" Inspection were evaluated by ESSE and found to be acceptable.
(4) Two valve weights appeared to be different in the design calculations as opposed to the actual weight. Documentation was provided to show that the difference in the weights had been evaluated by ESSE Stress Analysis and provided to ESSE Supports/Restraints for evaluation of the Supports/Restraints.
(5) In 1975, when these restraints were originally fabricated, part 283 had a 3/8" diameter shank. The shank diameter was subsequently changed to 1/2" in 1976 but Bergen Paterson kept the same part number. All shanks were correctly used in the design. No further action is required.

PROGRAM: None of the above items are considered significant problems.

4.(Continued)

A sample review of recent new revisions and designs show correct symbols for the flush members. In addition, ESSE Engineers have been instructed to check for correct symbol application as described in the existing design guidelines.

For tube steel thicknesses, a random sample of 100 members will be checked to verify that the design thicknesses agree with the actual thicknesses installed. To date 51 members have been checked and all agree with the design drawings.

With regard to the valve weights, all safety related stress analysis calculations have been reviewed to verify for correct valve weights. Differences will be evaluated for stresses in the pipe and changes in support loads. No physical modifications have been required to date and none are expected.

IMPLEMENTATION:

The above programs are complete.

GENERIC IMPLICATIONS:

None: The items noted are not considered significant enough to indicate that existing programs will not suffice to control each deficiency.

5. PROGRAM OUTLINE FOR EVALUATION OF AS-BUILT CONDITION OF SEISMICALLY SUPPORTED BLOCK WALLS

OBJECTIVE: Provide a field survey and test program to ascertain the conformance of masonry construction to design drawings and specifications regarding internal reinforcement and grouting.

PROBLEM DESCRIPTION: Documented evidence of inspection of the seismically supported masonry block walls is insufficient to establish compliance with design requirements during installation. This was found by the inspector questioning one particular wall. In order to function as designed, the steel reinforcement and mortar fill must have been installed. About 10% of the walls (19 of 195) have completed engineering inspection reports traceable to them covering the installation of reinforcement and mortar. The remainder have only partially completed inspection reports or general are in-process inspection reports without details.

DISCUSSION: In the event QA/QC information is not available, a field survey and test program reviewed and approved by the staff should be implemented to ascertain the conformance of masonry construction to design drawings and specifications (e.g. rebar and grouting). The program proposed for Waterford 3 will be based on nondestructive examination of a representative sampling of the walls and visual survey of all walls.

PROGRAM: The program consists of the following steps:

(1) In the case of the specific wall in question, the block was chipped away revealing the steel angles in place as designed.

(2) Survey a representative sample of 100 of the 195 installed block walls, 50 hollow block and 50 solid block, to ascertain the conformance of masonry construction to design drawings with respect to internal reinforcement and grouting.

(3) Hollow block walls shall be surveyed by radiography to reveal the presence of vertical rebar, horizontal Dur-o-wall, and mortar core fill.

(4) Solid block wall shall be surveyed by rebar detector to reveal presence of Dur-o-wall horizontal reinforcement.

(5) Survey all masonry walls visually, and verify dimensional and configurational conformity to design.

(6) Documentation of all instrument tests and surveys will be maintained.

5. (Continued)

IMPLEMENTATION:

Estimated date of completion is May 1, 1984.

GENERIC IMPLICATIONS:

Documentation has been or will be reviewed on safety-related installation. Missing or incomplete documentation requires reconstruction of missing records, if available, or reinspection to assure compliance to requirements, sample destructive testing or, in some cases, reconstruction.

6. PROGRAM OUTLINE FOR RESOLUTION OF FULL PENETRATION WELD RADIOGRAPHY DISCREPANCY ON ASSOCIATED PIPING SUPPLIED MAIN STEAM PENETRATION NO. 1

OBJECTIVE: Establish the acceptability of the primary bellows to fluid head full penetration weld no. 3 on Main Steam Penetration No. 1.

PROBLEM DESCRIPTION: In the interpretation of the NRC reviewer, weld no. 3 was not properly prepared for radiography in accordance with ASME requirements. As a results, the weld quality was considered questionable for a small portion of the total length of the weld.

DISCUSSION: Due to inaccessibility of the weld, it is not feasible to visually inspect the weld surface and re-radiograph. Therefore, an engineering evaluation is underway to establish the acceptability of the questionable areas.

An approximate total of 37 associated piping full penetration welds were reviewed during the recent NRC CAT Inspection. The above described weld was the only questionable item resulting from the review. Therefore, it is considered an isolated case. Further review of APE radiographs is not considered appropriate.

PROGRAM: The resolution is as follows:

(1) Ebasco Materials Application and Mechanical Engineering are presently reviewing the finite element stress analysis performed by Associated Piping to establish the stress levels and direction of loading at the points in question.

(2) Having established the physical nature of the questionable areas (i.e. root convexities) a review of the stress levels will determine the acceptability of the questionable areas.

(3) If in the opinion of the design engineer the stress levels are sufficiently high, a fracture analysis will be performed to verify the acceptability of the weld.

(4) Appropriate documentation will be prepared to justify the outcome of the engineering evaluation.

IMPLEMENTATION:

Estimated completion date is May 1, 1984.

GENERIC IMPLICATIONS:

The piping penetrations are the only items supplied by APE. Based on the 37 welds reviewed and the one "somewhat" questionable weld identified this is considered an isolated case having no generic implications.

7. EVALUATION OF CONSISTENCY BETWEEN THE ISOMETRICS & MECHANICAL PIPING ORTHOGRAPHIC DRAWINGS

OBJECTIVE: To ensure that FCR's and DCN's are incorporated on Ebasco piping drawings and isometrics in a consistent manner.

PROBLEM DESCRIPTION: During the NRC "CAT" inspection, several minor discrepancies between isometrics and piping design drawings were found.

DISCUSSION: Questions were raised that the piping isometrics and not the piping orthographics, which gave the approved design documents, are used for field verification of the piping installation. The piping isometrics must accurately reflect the design orthographics in order to assure that the field installation is in accordance with the approved design.

PROGRAM: (1) To determine if there is a consistency problem between isometrics and piping drawings, a sample will be reviewed for consistency.

IMPLEMENTATION:

The program will be administered by ESSE Mechanical Engineering. Sample review for consistency will be completed by May 7, 1984.

GENERIC IMPLICATIONS:

The sample review being implemented within the corrective action program will determine if generic implications exist and further action as required.

8. PROGRAM OUTLINE FOR EVALUATION OF LIMITORQUE OPERATOR ORIENTATIONS

OBJECTIVE: Establish a level of confidence to ensure that safety class valves with Limitorque operators have been correctly installed.

PROBLEM DESCRIPTION: During the NRC "CAT" Inspection, it was found that one Limitorque operator had not been installed in accordance with design. Although this discrepancy was considered insignificant, the appropriate documentation was generated to resolve the issue.

DISCUSSION: The concern arising from the identified discrepancy involved gear lubricant leakage into the motor winding. If the orientation is such that leakage can occur, an operator seal must be installed.

PROGRAM: In order to review the concern, the following program will be implemented:

(1) ESSE Mechanical will provide Ebasco QA with a list of safety class valves with Limitorque operators and acceptance criteria for orientation of Limitorque operators.

(2) Ebasco QA will field survey the operator to identify deviations in orientation of Limitorque operators.

(3) ESSE Mechanical will evaluate identified deviations for acceptability.

(4) ESSE Mechanical is to issue DCN(s), if necessary, to revise drawings for as-built conditions.

IMPLEMENTATION:

This program will be administered by Ebasco QA. Estimated completion date is April 30, 1984.

GENERIC IMPLICATIONS:

Ebasco Engineering reviewed installation requirements of valving components to assure orientation requirements are established and met.

9. DESIGN CONTROL (DOCUMENT CONTROL) CAT CORRECTIVE ACTION

OBJECTIVE: The program objective outlined below is aimed at eliminating discrepancies in posting FCR's and DCN's on controlled drawings and eliminating the inconsistencies between the Document Control files and the Ebasco Drawing Closeout Schedule.

PROBLEM DESCRIPTION: The areas of concern relative to Document Control interface with the Design Control program have been identified as follows:

(1) FCR/DCN posting discrepancies on controlled drawing for which individual control number holders had responsibility.

(2) Controlled drawing stick files, for which individual control number holder had responsibility, that did not contain the latest revision of drawings.

(3) Discrepancies between the Document Control drawing control cards and the ESSE Drawing Closeout Schedule relative to drawing revisions and unincorporated FCR/DCN's.

DISCUSSION: A joint Ebasco and LP&L program to reduce the total number of active control numbers receiving controlled drawings has been ongoing for some time. To date, this program has reduced the total number of control numbers receiving controlled drawings.

A comparison between the Document Control drawing control cards and the ESSE Drawing Closeout Schedule are presently being addressed under a program initiated between Document Control, ESSE, and Ebasco N.Y. This program involves the review of the Document Control control cards and the Drawing Closeout Schedule at the time of drawing revision to assure conformity.

PROGRAM: In response to the CAT audit findings, the two corrective action programs currently in effect will be consolidated and modified to expedite the completion of corrective action. The program modification and implementation timetables are as follows:

(1) Ebasco will continue to reduce the number of controlled drawings. This reduction will be accomplished on or before April 15, 1984.

(2) On April 16, 1984, Document Control will assume total responsibility for those control numbers who are still receiving controlled drawings. This includes the drawing stick files.

9. (Continued)

(3) Beginning immediately, Document Control will take over the updating of the ESSE Drawing Closeout Schedule. On or before April 16, 1984, a complete review of the Closeout Schedule and the Document Control drawing control cards will be completed and the two documents reconciled. Document Control will be the only organization to add or to delete from the Drawing Closeout Schedule. Additions and/or deletions will simultaneously be made to both documents by the same clerk thus eliminating any chance of document discrepancy.

These actions will be taken by Ebasco with appropriate overview and interfaces with the LP&L Records & Adminstration.

IMPLEMENTATION:

Estimated date of completion - April 16, 1984

GENERIC IMPLICATIONS:

The action themselves are generic; the program is being changed.

10. PROGRAM OUTLINE FOR EVALUATION OF CONCERNS ADDRESSING MATERIAL TRACEABILITY

OBJECTIVE: To ensure that appropriate material traceability exists in compliance with ASME Code and Quality Program requirements.

PROBLEM DESCRIPTION: During the NRC CAT Inspection, several discrepancies were identified regarding material traceability. Some items were of different material than that specified on the design drawings, some items were identified as having inconsistent markings, some items were not marked, and some items were not traceable to documentation.

DISCUSSION:

(1) Per ASME and QA program requirements, bolting greater than 1" is to be purchased with CMTR's and traceable through installation. Of the items noted in the CAT inspection only the hold down bolting on the Safety Injection Tank and ring girder is greater than 1". All other bolting traceability items noted in the inspection applied to bolting less than 1".

ASME Section III and the QA program require only "Certificates of Compliance" for bolting 1" and less. Traceability through installation for this bolting is not required. Contractors performing installation or work on safety related components within Quality Assurance programs and procedures which controlled the purchasing and installation of safety related material for bolting requiring only a "C of C". No corrective action is required for traceability.

(2) The majority of the items noted with inconsistent markings related to manufacturer's markings, which are not required to be consistent. One set of nuts was identified as being inconsistent, but further field inspection has shown them to be marked identically.

(3) Four items were identified to be of different material than that specified on design drawings. These differences have been identified as either existing on the original equipment as furnished by the vendor, or as resulting from rework during start-up operations.

PROGRAM:

(1) The paint was removed from the Safety Injection Tank bolts and studs to determine the traceability markings. Ebasco Engineering has evaluated the markings and determined this to be no problem. No further action is required.

(2) The markings identified as inconsistent have been resolved as being either manufacturer marking differences or markings incorrectly recorded at the time of the CAT Audit. No corrective action is required.

10. (Continued)

(3) Three of these four items are documented and resolved on DN-SQ-2349 and NCR-W3-7643. The remaining item is to be referred to the start-up maintenance organization for corrective action, via a potential problem report.

IMPLEMENTATION:

Estimated completion date - April 30, 1984.

GENERIC IMPLICATIONS:

Based on a Quality Deficiency Report issued by LP&L Nuclear Operations QA, a program was instituted to assure that flanges, valve bonnets, manways, etc., which were disassembled during testing, will be in compliance with requirement. Material (fasteners) will be verified, torqued and documented.

No further action warranted.

11. SUMMARY OF PEDEN STEEL SHOP WELDS

FINDINGS AND PROGRAM

OBJECTIVE: Evaluate the need for further investigation or corrective action regarding shop welds made by Peden Steel.

PROBLEM DESCRIPTION: During the CAT Inspection the following actions were taken:

(1) The NRC Inspector examined 40 shop welded structural steel connections made by Peden. Two were identified for engineering evaluation. Both were found acceptable.

(2) Ebasco examined 240 connections and 13 required engineering evaluation. All were acceptable.

DISCUSSION: With respect to welding, no problem requiring repair was identified in connections examined during the CAT Audit Peden shop welding was performed under their shop QA/QC Program. Ebasco Vendor QA representatives inspected activities in the shop, and receiving inspections and QA records review at the site have established that complete, satisfactory quality documentation exists for Peden work.

Sixty-five pieces of small-bore pipe whip restraints were returned to Peden for repair in 1982, after certain weld defects were found. The welds called for by the design were difficult to make and not typical of the large, accessible welds found in structural work generally.

It is concluded, based on the record to date including the CAT Audit findings, that sufficient investigation into Peden Shop welding has been performed. The Peden Shop QA/QC program as carried out is sufficient assurance of the acceptability of the work. Nevertheless, a sample of shop welded connection will be examined to provide further confirmation.

PROGRAM: An additional sample of 500 welded connections made by Peden Steel will be examined. The sample will be divided equally among structural steel framing for buildings, Electrical cable tray seismic supports and HVAC seismic supports.

The examination will be performed under ASP-IV-142 by Ebasco Materials Application Engineers.

IMPLEMENTATION:

Estimated completion date is May 1, 1984.

GENERIC IMPLICATIONS:

The program outlined is a result of reviewing for generic implications. Sample selected will ensure that Peden welds are adequate notwithstanding various contractors installing Peden supplied components.

12. PROGRAM OUTLINE FOR ELECTRICAL MAINTENANCE CONCERNS - ADDRESSED DURING THE CAT INSPECTION

OBJECTIVE: Establish the acceptability of the Electrical Maintenance PM Procedures to provide good practices for care of MOTORS.

PROBLEM DESCRIPTION: See attached summary and history of referenced audit findings.

DISCUSSION: Electrical Maintenance Procedure ME-4-703 provides for performing PMs on motors. Included as a part of the PM Program is a megger test if the motor has not been run within the last 30 days. During the period of 10/83 to 1/84 a conscious decision was made to not megger the motors, but this decision was not documented. This decision is not detrimental to the motors, and monthly meggering should not be advocated unless conditions warrant it.

Subsequent megger readings have been taken on these seven motors with satisfactory results. The readings give no indication of degradation of motor operability or dependability.

PROGRAM: The resolution is as follows:

(1) ME-4-702 will be deleted and be replaced in full by ME-4-703.

(2) ME-40703 will be revised to clarify the procedure with respect to the frequency for meggering and conditions for which meggering should not be performed.

(3) Maintenance personnel in the Electrical Department will be counseled and trained on the appropriate methods for documenting the results of preventative maintenance to include these cases where maintenance is not performed/rescheduled.

IMPLEMENTATION:

The program outlined above is currently in progress.

GENERIC IMPLICATIONS:

A review of electrical maintenance procedures has been accomplished and revisions made within the program to gain added confidence. The maintenance program is being evaluated on an ongoing basis due to operating configurations histories being developed.

13. PROGRAM OUTLINE FOR FIRE DAMPER MALFUNCTIONS DURING CAT AUDIT

OBJECTIVE: Evaluate the need for investigation and/or corrective action regarding the malfunctions of fire dampers.

PROBLEM DESCRIPTION: During the CAT inspection, 8 fire dampers were tested to verify proper operation. 2 of the 8 dampers tested failed to close properly.

DISCUSSION: The LP&L Startup Engineer reinspected the "Airbalance" spring type failed damper and found that the gravity assist actuating spring had twisted from torque and the spring end caused binding. This torquing was apparently caused by improper and excessive manual releasing. Following realignment of the damper spring, it was tested and found to operate properly. Subsequently the damper has been returned to service. During the performance of the preoperational test, the startup engineer noted operating difficulties with the failed damper and a limited number of other dampers of this type prior to successfully passing the test. At that time, the problem was attributed to incorrect manual release of the dampers.

PROGRAM: The preoperational test results will be reviewed to identify all "Airbalance spring type dampers that experienced operating difficulties. (Dampers not operating properly the first time during preop.) These dampers will be inspected, ensuring proper spring alignment, and retested to preoperation test requirements. Additionally, a letter is being issued to LP&L Operations, detailing the proper method of manually releasing the fire dampers. This letter will include a recommendation that the damper springs on all "Airbalance" spring type dampers be inspected as part of the preventative maintenance requirements every 18 months.

IMPLEMENTATION:

Estimated completion date - May 15, 1984

GENERIC IMPLICATIONS:

The Joint Test Group (JTG) reviews test procedures for abnormal operating characteristics exhibited by components during the testing program. The JTG has additionally directed the Startup Engineers to identify to the Operations staff any abnormal operating characterics detected during the test program. Additional reviews of Phase II testing are accomplished in the JTG Comprehensive Review Program.

A. ITEM

The question was raised by the CAT Inspector relative to QA involvement in the Area Walkdown Program.

RESPONSE:

Currently in addition to Ebasco Quality Assurance involvement there are eight LP&L Quality Assurance Representatives involved with the area walkdown. Their duties consist of surveillance of the on-going walkdown and performing audits of areas upon acceptable completion of Ebasco's area walkdown per LP&L Procedure.

B. ITEM

IEW PWHT charts on the "A" Stops (Piece 1-A2A-P1-E7-E-1)

a) PWHT chart did not indicate the chart speed.
b) Temp. on PWHT chart was 1050°F but the drawing required 1100°F.

RESPONSE:

a) Ebasco has reviewed PWHT chart of Piece 1-A2A-P1-E&E-1 and have determined the time and temperature satisfies code requirements for material type.

b) Applicable code requirements were met. Ebasco specified that the PWHT should remain 50°F below the material tempering temperature. The production weld was therefore PWHT at 1050°F and held at that temperature for 2 hours per inch of weld thickness. The W.P.S. to make this weld was qualified with the 1050°F PWHT for the required hold time.

The above statement complies with IEW original P.O. which required them to PWHT at 50°F below the tempering temperature which is 1100°F. This is why IEW also qualified with the 1050°F PWHT for the required hold time.

14. (Continued)

C. ITEM

Hold Tags - The requirement for a hold tag to be placed on material when an NCR was written was removed from theNCR Procedure (ASP-III-7) in 1983.

RESPONSE:

There are a total of 65 NCR's that were written witnout the initiation of a D.N. or E.D.N. Ebasco is in the process of reviewing these NCR's to determine the need to place hold tags on the nonconforming conditions.

ASP-III-7 was revised (issue K) on 3/7/84. Paragraph 5.7 requires that hold tags be placed and removed by Q.C.

Ebasco providing training on ASP-III-7, Issue K on 3/27-28/84. It is common practice that all affected personnel receive training on procedures as they are revised.

D. ITEM

DN's and EDN's are not upgraded to NCR's; ASP-III-7, Para. 6.2.1, requires an NCR be issued when Corrective Action requires an engineering change to drawings, specs, or procedures.
(i.e., FCR of DCN) (6 examples)

RESPONSE:

W3QA-27995 memo dated 3/26/84 was issued to all QAE's and Q.C. Supervisors, directing them to be more observant on the review of the contents of the Discrepancy Notices as well as the corrective action.

E. ITEM

NCR's not filled out correctly; ASP-III-7 attachment 7.1, pg. 3, #9 requires that the description state the requirement being violated. Several cases were found where this was not done.

RESPONSE

This concern was discussed and emphasized in the training sessions 3/27-28/84 to ASP-III-7.

14. (Continued)

RESPONSE (Continued)

LP&L Operations QA has recently reviewed Ebasco nonconformance reports. In their review, very few problems were noted concerning the lack of stating the requirement being violated. Based on their review, no further sampling is anticipated.

F. ITEM

ASP-III-7, Issue J, deleted from the body of the procedure the requirement for the QAE to complete Form #6009 (corrective action). Issue "K" put the requirement back in.

RESPONSE

Training of ASP-III-7 Issue K will address the need for QA to require corrective action to preclude recurrence as necessary. This is noted in Attachment 7.1, page 6 of 7 of ASP-III-7. Also form 7.3 to ASP-III-7 requires corrective action take to preclude recurrence, if the QA Engineer deems this action necessary.

Issue "G" thru "I" contained the Corrective Action Report Form No. 6009-11/2-82B. Issue "J" (dated 12-9-83) did not utilize this Corrective Action Report. Issue "K" - re-established the use of the Corrective Action Report (dated 3-7-84). This is not considered to be significant as the corrective action program was in effect during this period.

G. ITEM

Test for borrow material acceptability should have been performed prior to the placement and compaction.

RESPONSE

This commitment did not exist in the PSAR which was in effect between 1974 and 1978 when most of the work was performed. Borrow material was approved at the source (pit) by Mr. Temchin, the Site Soils Engineer, a highly qualified individual who represented design engineering. It was pump-dredged Batture Sand, very clean and uniform. The specification did not required the form be filled out prior to placement and only routine check tests were performed off the fill. Deficiency Notice SQ-2862 has been initiated to document the foregoing.

14. (Continued)

H. ITEM

The following type of problems were noted during the CAT inspection.

A) Spacing on struts and snubbers

B) Angularity on struts and snubbers

C) Gaps on sliding fit U-bolts

D) Interdisciplinary clearances

E) Area walkdown scope/accountability with regard to pipe supports.

F) Gaps on box guides

G) Incorrect 4010 redlining for welding of end attachment.

RESPONSES

All personnel involved with pipe supports in the area walkdown have been indoctrinated with special emphasis put on items A thru D.

As for scope and accountability, (Item E) all supports checked will be individually documented and tracked.

Item F and G were evaluated by ESSE engineering in the cases identified by the CAT and were determined to be acceptable as is, also due to various other hanger walkdown programs which have been implemented in the past (LP&L walkdown, 7400 walkdown, Ebasco 208 hanger walkdown, FCR-MP-1553, and NCR-W3-2644) it is felt these cases noted are isolated. No additional action required.

I. ITEM

Cable to Cable Separation Problems in battery chargers.

RESPONSES

This item appears to be an isolated problem. Ebasco has written PPR 123 to identify this problem. ESSE recommends cables be reworked to meet proper separation criteria. Rework to be completed and QC inspected.

14. (Continued)

J. ITEM

Placements 499-S02-6 and 499-S02-13B have (2) misplaced pump summary sheets.

RESPONSE

The (2) discrepant pump summary sheets have been reconstructed utilizing various existing documents in the subject placement packages. Out of the 700 test documents reviewed we feel that these (2) two documents that were missing are isolated case. Since it has been shown that the missing documents can be reconstructed we feel that no further corrective action is required. The reconstruction of pump summaries are documented and can be found in placement packages.

K. ITEM

Two (2) GEO Lab Test Reports, document slump and air percentage used for placements 499-S04-1A3 and 1A4 which exceeded Specification tolerances; reference Batch Ticket Nos. 14631 and 14616.

RESPONSE

The (2) batch tickets identified did indeed exceed specification limits. The reasons GEO Test Lab identified these reports being acceptable was because they were instructed by Ebasco Engineering in writing that for the mix design used (AA-29) the increase in percentage of slump and air was acceptable. The actual discrepancy is that an FCR should have been generated by Ebasco Engineering in lieu of a letter directing the test lab to deviate from specification limits.

As of 3/29/84 this deviation has been properly identified by means of a Discrepancy Notice SA-2858 and corrective action initiated. It should be noted that the (2) discrepant entries represented a sampling of approximately 700 evaluated and we feel this was an isolated occurrence.

14. (Continued)

L. ITEM

NCR W3-6234 (Attachment V) did not have a revised test schedule for mechanical splices that took into consideration visual rejects.

RESPONSE

NCR W3-6234 (Attachment V) has been 100% re-evaluated to accurately include visual rejects in the selection of destructive test sampling. This review will be documented on a supplement NCR for Attachment V which will be completed and re-evaluated by Quality Assurance and Ebasco Engineering prior to April 6, 1984.

M. ITEM

QAIRG #1191 (Letter #) was generated to close all generic comments on 9.2 forms on hydro records. This letter did not reference all the referenced letter Nos. used by QAIRG to generate QAIRG #1191.

RESPONSE

QAIRG is writing a supplement to QAIRG #1191 (letter #) dated 2/1/84. QAIRG is reviewing 100% of the 9.2 comments in the hydro packages to assure that all the generic 9.2 comments are identified in the QAIRG-1191 supplemental letter. QAIRG will complete their 100% review by April 6, 1984.

N. ITEM

Tompkins Beckwith needed to write a letter of clarification on why hydro-walkdown sheets on retest are not in hydro packages.

RESPONSE

Tompkins Beckwith generated a letter of clarification on March 22, 1984 that explains the list of the hydro walkdown sheets. See attached letter on subject procedure TBP-36 "Hydrostatic/Pneumatic Testing."

~~Ltr~~

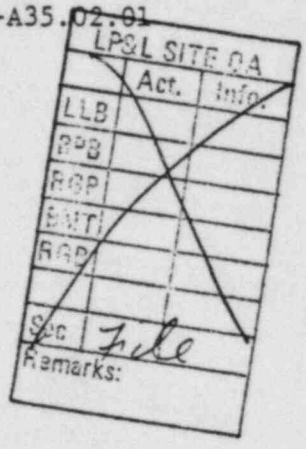
Response 13
Item 1
taping of flex
conduit.

LOUISIANA POWER & LIGHT / 142 DELARONDE STREET
P. O. BOX 6008 • NEW ORLEANS, LOUISIANA 70174 • (504) 366-2345
MIDDLE SOUTH UTILITIES SYSTEM

D. L. ASWELL
Vice President-Power Production

October 15, 1980

LPL 15274
Q-3-A35.07.18
Q-3-A35.02.01



Mr. K. V. Seyfrit, Director, Region IV
U. S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76012

SUBJECT: Waterford SES Unit No. 3
Docket No. 50-382
Final Report for
Significant Construction Deficiency No. 18
"Flexible Liquid Tight Wiring Conduit Covering
Failure (Anaconda)"

REFERENCE: Telecon - L. L. Bass (LP&L) to B. Hubacek (NRC) on August 1, 1980

Dear Mr. Seyfrit:

In accordance with requirements of 10CFR50.55(e), we are hereby providing two copies of the Final Report of Significant Construction Deficiency No. 18, "Flexible Liquid Tight Wiring Conduit Covering Failure (Anaconda)."

It is our understanding that Anaconda has reported this problem to the NRC under the requirements of 10CFR21.

If you have any questions, please advise.

Very truly yours,

D. L. Aswell

D. L. Aswell

DLA/LLB/grf

8010210458

cc: 1) Director
Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555
(with 15 copies of report)

2) Director
Office of Management
Information and Program Control
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555
(with 1 copy of report)

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bc: G. E. McLendon, Les Constable, Ebasco (2), J. M. Brooks, J. Crnich (2), L. V. Maurin, D. B. Lester, F. J. Drummond, T. F. Gerrets, L. L. Bass, C. J. Decareaux, P. V. Prasankumar, T. K. Armington, D. C. Gibbs, Richard Hymes, R. Hartnett, L. Stinson, M. I. Meyer, Central Records.

LOUISIANA POWER & LIGHT COMPANY

WATERFORD SES UNIT NO. 3

Revised
Final Report of
Significant Construction Deficiency No. 18

Flexible Liquid Tight Wiring Conduit
Covering Failure (Anaconda)

Reviewed by J. Cnich 9/30/80
J. Cnich - Site Manager Date

Reviewed by R J Milhiser 9/30/80
R. J. Milhiser - Project Superintendent Date

Reviewed by J HART by G. Warren per telecon 9/29/80
J. Hart - Project Licensing Engineer Date

Reviewed by R A Stinson 9/30/80
for R. A. Hartnett - Q. A. Site Supervisor Date

September 29, 1980

FINAL REPORT
SIGNIFICANT CONSTRUCTION DEFICIENCY NO. 18
FLEXIPLE LIQUID TIGHT WIRING CONDUIT
COVERING FAILURE (ANACONDA)

Introduction

This report is submitted pursuant to 10CFR50.55(e). It describes a deficiency in the liquid tight covering of flexible metal conduit as manufactured by The Anaconda Company as Anaconda Metal Hose.

Description

Anaconda flexible liquid tight metal conduit was purchased to Specification LOU 1564.249B. This specification imposed minimum bending radius for the various size conduits. In May of 1979, Anaconda revised their technical information and increased the minimum bending radius. Ebasco having purchased the flexible conduit prior to this date, and having a Certificate of Compliance from Anaconda to the specification, did not foresee a problem.

Fischbach & Moore Quality Control personnel discovered four flexible liquid tight metal conduits in the Water Treatment Building where the jacket was failing and separating from the metal. A deficiency report was written regarding the situation and was identified by Report No. FM-DR-206, dated July 1, 1980. These four conduits were identified as 31310-NB 3/4", 31343A-NA 1½", 31344A-NB 1½", and 31351A-NB 1½". The Water Treatment Building is not a safety-related area.

Anaconda was contacted about the conduit failure. In the following conversations and meetings, Anaconda brought out the fact that all flexible conduit should be installed to the new (5/11/79) bend radius, or the conduit jacket would possibly fail. At this time, it was pointed out to Anaconda that all 2" and under conduit was shipped to Ebasco in violation of the bend radius.

On July 8, 1980, Nonconformance Report F&M W3-339 (W3-2175) identified a failure of the jacketing material for safety-related conduit 32336C-SA.

Deficiency Report FM-DR-206 (non-safety-related) was dispositioned on August 5, 1980. Nonconformance Report W3-2175 (safety-related) was evaluated and dispositioned on August 8, 1980.

At the present time, the Contractor is awaiting material to be issued by Ebasco Services, Inc. Anaconda has agreed to replace all 2" and under flexible conduit which was shipped prior to May of 1980 with new flexible conduit which is to be shipped in a manner that is in compliance with Anaconda Report 3727 dated 5/11/79. IEEE 323 prototype test reports have been reviewed by Ebasco Engineering, and the acceptance of this report is now on file.

Safety Implications

If the plant design was such that Class 1E equipment must be enclosed in a sealed liquid-tight enclosure to provide protection against harsh environment or LOCA conditions, degradation of the jacket covering on flexible conduit would provide a pathway for liquid to enter the enclosure and create a safety hazard.

However, in the case of Waterford 3, Class 1E equipment components within the RCB are qualified to full LOCA Conditions. As a result, no dependence is placed on the liquid-tight conduit to prevent entry of liquid into the component. Thus, for Waterford 3, degradation of the Anaconda conduit jacket presents no safety hazard.

Due to the design of the SIS Sump, as outlined in WSES-3 FSAR Sections 6.2.2.2.2.1 and 6.2.2.3.2.1, the breaking off of the conduit jacket material is not considered a safety hazard.

Corrective Action

Although the evaluation of the problem concludes the problem does not present a safety hazard, corrective action on the nonconforming condition is still required and described as follows:

1) Anaconda 2-inch and under flexible metal conduit which has not been installed is being returned to Anaconda for replacement.

2) In the Reactor Containment Building, all Anaconda flexible metal conduit presently installed will be taped with two (2) half-lapped layers of Okonite T-35 tape. In certain cases, the conduit will be replaced where it is more practicable or economically advantageous.

3) Anaconda flexible conduit in all other buildings, except the RCB, will be accepted as is. LP&L has reserved the right to have the flexible conduit in these buildings taped, stripped or replaced.

4) Anaconda flexible conduit presently installed in the outside area will be taped as necessary or replaced if economically practicable.

5) The installation drawings are being revised to reflect the new bending radius requirements.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

NRC 168

In Reply Refer To:
Docket: 50-382/81-29

December 11, 1981

Louisiana Power and Light Company
ATTN: D. L. Aswell,
Vice President Power Production
142 Delaronde Street
New Orleans, Louisiana 70174

Gentlemen:

This refers to the inspection conducted by L. E. Martin, C. E. Johnson, and K. A. Whittlesey of our staff during the period November 2-6, 1981, of activities authorized by NRC Construction Permit CPPR-103 for Waterford Steam Electric Station, Unit No. 3, and to the discussion of our findings with Mr. T. E. Gerrets and other members of your staff at the conclusion of the inspection.

Areas examined during the inspection and our findings are discussed in the enclosed inspection report. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspectors.

During this inspection it was found that certain of your activities were not conducted in full compliance with NRC requirements. Consequently, you are required to respond to this matter, in writing, in accordance with the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Your response should be based on the specifics contained in the Notice of Violation attached to this letter.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosures will be placed in the NRC Public Document Room unless you notify this office, by telephone, within 10 days of the date of this letter and submit written application to withhold information contained therein within 30 days of the date of this letter. Such application must be consistent with the requirements of 2.790(b)(1).

The responses directed by this letter and the accompanying Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

8112310500

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Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

J. P. Gilleland for

G. L. Madsen, Chief
Reactor Projects Branch

Enclosures:
1. Appendix A - Notice of Violation
2. Appendix B - NRC Inspection Report 50-382/81-29

cc:
Louisiana Power and Light Company
ATTN: L. V. Maurin, Assistant Vice President
Nuclear Operations
142 Delaronde Street
New Orleans, Louisiana 70174

Louisiana Power and Light Company
Waterford-3
ATTN: D. B. Lester, Plant Manager
P. O. Box B
Killona, Louisiana 70066

APPENDIX A

NOTICE OF VIOLATION

Louisiana Power and Light Company
Waterford, Unit 3

Docket: 50-382

As a result of the inspection conducted November 2-6, 1981, and in accordance with Interim Enforcement Policy 45 FR 66754 (October 7, 1980), the following violation was identified:

Failure to Follow Procedures for the Protection of Electrical Penetration Assemblies

Criterion V of Appendix B to 10 CFR 50, requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances, and that they shall be accomplished in accordance with these instructions, procedures, or drawings.

Ebasco CMI 28, Revision 8, "Care and Maintenance Instructions for Electrical Penetration Assemblies," requires that, during in-place storage, penetration assemblies be provided with adequate protection from damage and deterioration as a result of conditions or activities in the vicinity.

Contrary to the above, during a plant tour on November 2, 1981, the NRC inspector discovered protective barriers absent from Class 1E electrical penetrations 107SB and 101SA. Penetrations in such an unprotected condition are subject to damage due to adjacent construction activities.

This is a Severity Level V violation. (Supplement II.E)

Pursuant to the provisions of 10 CFR 2.201, the Louisiana Power and Light Company is hereby required to submit to this office within 30 days of the date of this Notice, a written statement or explanation in reply, including: (1) the corrective steps which have been taken and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date when full compliance will be achieved. Under the authority of Section 182 of the Atomic Energy Act of 1954, as amended, this response shall be submitted under oath or affirmation. Consideration may be given to extending your response time for good cause shown.

Date December 11, 1981

J. L. Westerman for
G. L. Madsen, Chief
Reactor Projects Branch

8112310503

PDR

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Report No. 50-382/81-29

Docket: 50-382 Category A2

Licensee: Louisiana Power and Light Company
142 Delaronde Street
New Orleans, Louisiana 70174

Facility Name: Waterford Steam Electric Station, Unit 3

Inspection At: Waterford Site, Taft, Louisiana

Inspection Conducted: November 2-6, 1981

Inspectors: W. A. Crossman 12/9/81
for L. E. Martin, Reactor Inspector, Projects Section 3 Date
(Paragraphs 1, 2 & 6)

R. E. Hall 12/10/81
C. E. Johnson, Reactor Inspector, Engineering & Date
Materials Section (Paragraphs 2 & 5)

R. E. Hall 12/10/81
K. A. Whittlesey, Reactor Inspector Trainee, Date
Engineering & Materials Section (Paragraphs 2, 3 & 4)

Accompanying Personnel: R. E. Hall, Chief, Engineering & Materials Section

Approved: W. A. Crossman 12/9/81
W. A. Crossman, Chief, Projects Section 3 Date

R. E. Hall 12/10/81
R. E. Hall, Chief, Engineering & Materials Section Date

8112310506

Inspection Summary:

Inspection on November 2-6, 1981 (Report 50-382/81-29)
Areas Inspected: Routine, unannounced inspection of safety-related construction activities, including follow up on licensee identified Construction Deficiencies (50.55(e)); site tour; electrical penetration assembly installation; and safety-related pipe support and restraint installation. The inspection involved 99 inspector-hours by three NRC inspectors.
Results: Of the four areas inspected, one violation was identified during the site tour (violation - failure to follow procedures for the protection of electrical penetration assemblies, paragraph 3).

DETAILS

1. Persons Contacted

Principal Licensee Personnel

Louisiana Power & Light Company

T. F. Gerrets, QA Manager
D. B. Lester, Plant Manager, Nuclear
W. M. Morgan, QA Supervisor
J. Woods, QC Engineer
B. P. Brown, QA Engineer
R. G. Bennet, QA Engineer
R. G. Pittman, QA Engineer
B. M. Toups, QA Engineering Technician
C. J. Decareaux, Project Coordinator

Other Personnel

J. Gutierrez, QA Site Supervisor, Ebasco Services, Inc. (Ebasco)
L. A. Stinson, Manager, Site Quality Program, Ebasco
R. J. Milhiser, Site Manager, Ebasco
W. Yaeger, Senior Resident Engineer, Ebasco
J. DeBreaux, Site Support Project Engineer, Ebasco
J. D. Kenney, Project Manager, Tompkins-Beckwith, Inc. (T-B)
L. Richardson, QA Supervisor, T-B
R. L. Hadley, Chief Engineer, Fischbach & Moore, Inc. (F&M)
E. J. Ritzmann, Project QC Manager, F&M
R. M. Ronquillo, QA Manager, Gulf Engineering (Gulf)
J. Abbott, QA Supervisor, Mercury Company (Mercury)

The NRC inspectors also interviewed other licensee and contractor personnel during the course of the inspection.

All of the above listed personnel attended the exit interview held on November 6, 1981.

2. Review of Items Reported Under 10 CFR Part 50.55(e)

During this inspection, a review was conducted of quality assurance documentation relative to the following items reported under 10 CFR Part 50.55(e).

(Closed) Significant Construction Deficiency: "Containment Electrical Penetration Bolting Failure," reported in licensee letter LPL 9865, September 27, 1978.

Subsequent to the final report of December 29, 1978, for the subject significant construction deficiency, problems encountered while implementing corrective action necessitated additional repair. On November 5, 1981, the NRC inspector reviewed the licensee's supplemental final report, dated July 14, 1981, and the F&M documentation of the rework. Weld repairs were performed

in accordance with FCR-E-911, and sandblasting and priming of the flanges conform to Ebasco Specification LOU 1564.734. F&M Inspection Report 306-46-337 shows work complete (flanges installed and mounting bolts torqued in accordance with Conax Procedure IPS-374, and IPS-151, Rev. 1, respectively).

Based on the review conducted during this inspection, this item is considered closed.

(Closed) Significant Construction Deficiency: Eight Reactor Coolant Loop "D" Stops, manufactured by Industrial Engineering Works, were received on site with obvious weld deficiencies. These were reported to the NRC under the provisions of 10 CFR Part 50.55(e) as Serious Construction Deficiency (SCD) 15, after the conditions had been noted by an NRC inspector and documented as an item of noncompliance in NRC Report 50-382/80-07. Follow-up inspections were performed and this infraction was closed in NRC Report 50-382/81-07. Further follow-up actions were performed and documented in NRC Report 50-382/81-12, after access was gained to the area of the eight "D" stops.

Based on the actions documented in the above reports, SCD-15 is considered closed.

(Closed) Inadequate Clearance Between Process Pipe System and Box-Type Supports/Restraints.

The NRC inspector reviewed the corrective action plan for this deficiency, and discussed corrective action steps with Ebasco Engineering and T-B. Corrective action is being implemented and is in process. Ebasco Engineering has performed stress analyses on the supports in question, and has submitted results to T-B. Ebasco has indicated to T-B which supports are to be accepted as-is, and which ones need to be reworked.

Supplemental work order 103 to contract W3-NY-11, changes the contract requirements on restraint gap clearances to prevent this deficiency from recurring.

This item is considered closed.

(Closed) Significant Construction Deficiency: Flexible Liquid Tight Wiring Conduit Covering Failure (Anaconda), reported in licensee letter LPL 15027 on September 2, 1980.

The NRC inspector inspected the replacement and repair of conduit inside containment and reviewed NRC-W3-2175 and rework assignments 2460 and 2086. The repair materials and the procedure were approved by Anaconda and met the requirements of IEEE 384.

This item is considered closed.

3. Site Tour

On November 2, 1981, the NRC inspectors walked through the Reactor and Auxiliary Buildings to observe the progress of construction and construction practices involved.

During the site tour, the NRC inspector observed that clamshell covers were missing or dangling loose from numerous electrical penetrations on both the primary and secondary sides. Penetrations 107SB and 101SA were observed in such an unprotected condition, with no ongoing construction related activities. A gauge for monitoring pressure was also observed missing from penetration 120SMD. Closer inspection revealed tools and trash in pull boxes, junction boxes, and electrical cabinets. Discussion with licensee QA representatives confirmed that these conditions had been observed and were addressed in memoranda referencing CMI deficiencies. Despite acknowledgement of the conditions, penetrations throughout the plant remained unprotected.

Paragraph 8.1.4.e of the LP&L Final Safety Analysis Report requires that electrical penetration assemblies be maintained to meet the requirements of IEEE Standard 336-1971, paragraph 5.1.2, which requires adequate barriers and protective covers to assure items will not be damaged as a result of adjacent construction activity. Ebasco CMI 28, Revision 8, "Care and Maintenance Instruction for Electrical Penetration Assemblies," paragraph D.2, requires adequate protection during in-place storage from damage and deterioration as a result of activities and conditions in the vicinity. The conditions observed at the time of this inspection were contrary to the above. This is considered a violation of Criterion V of Appendix B to 10 CFR 50. In response to the inspector's concerns, on November 4, 1981, F&M generated Surveillance Inspection Report IR 122-52-698, identifying unprotected electrical penetrations and initiated replacement of protective barriers.

4. Electrical Penetration Assemblies

The NRC inspector reviewed the following procedures, drawings, and instructions relative to electrical penetrations:

CP 314, Rev. 5	Installation of Electrical Penetrations
CP 406, Rev. 4	Testing and Maintaining Electrical Penetration Assemblies
QCP 314, Rev. 0	Installation of Electrical Penetrations
IPS 151	Installation and Maintenance of Electrical Penetration Assemblies

Conax Dwg. 73320-10002-01 Assembly Drawing

LOU 1564.258 Containment Electrical Equipment; Class 1E Equipment

CMI 28, Rev. 8 Care and Maintenance Instructions for Electrical Penetration Assemblies

Initial review of records relative to quality aspects of penetrations will be continued on subsequent inspections.

No violations or deviations were identified.

5. Safety-Related Pipe Support and Restraint Systems

A. Review of Work Procedures

The NRC inspector reviewed work procedures prepared by T-B. All procedures reviewed pertaining to safety-related pipe support and restraint systems were approved by authorized licensee personnel. Procedures reviewed appear to assure the technical adequacy of activities pertaining to safety-related pipe supports and restraint systems, and they appear to comply with NRC requirements and licensee commitments. Procedures reviewed included:

TBP-24, Rev. J Hanger and Support Installation Procedure

TBP-44, Rev. D Installation and Inspection of Pipe Rupture and/or Whip Restraints and Seismic I Structural Steel

TBP-23, Rev. B Inspection of High Strength Bolts and Calibration of Inspection Hand Torque Wrench

TBP-33, Rev. D Procedure for Inspecting Drilled - In Expansion Type Anchors for Seismic Class I Structures

All procedures contained appropriate inspection checklist forms for complete inspection sign-off.

B. Records Review

The NRC inspector reviewed records of completed pipe supports and restraints in the T-B records vault. The completed supports contained all required documents such as the weld control record, and field inspection checklist. All documents were signed, initialed and dated in the appropriate spaces as required by procedure.

Some of the records reviewed also contained inspection records for high strength bolts and expansion type anchors for the structural plate attachment to the wall. The NRC inspector reviewed the test

and inspection data of both expansion type anchors and high strength bolts. All test and inspection data appeared to comply with the acceptance criteria as required by procedure.

The NRC inspector checked the calibration records of torque wrenches used in the tests and inspections performed. This was done by tracing the control tool number from the inspection data forms from the pipe supports records. All torque wrenches appeared to be in calibration during the period of their use.

Records reviewed are listed below by support number.

CSRR-329	Containment Spray System
CCRR-995	Component Cooling System
CCRR-241	Component Cooling System
CDRR-244	Condensate System
CSRR-316	Containment Spray System
CCRR-525	Component Cooling System

The NRC inspector reviewed the welders qualification records on work performed on the above supports. All welders appeared to be qualified for the work performed to the specified weld procedures.

C. Observation of Work

The NRC inspector accompanied a T-B Quality Control inspector on a routine inspection of completed pipe supports and restraints in safety-related areas. The NRC inspector discussed procedural requirements and acceptance criteria for the supports under inspection. The Quality Control inspector appeared to have adequate knowledge of both procedural requirements and inspection criteria.

No violations or deviations were identified.

6. Exit Interview

The NRC inspectors met with licensee representatives at the conclusion of the inspection on November 6, 1981. The NRC inspectors summarized the purpose, scope, and findings of the inspection. The licensee representatives acknowledged the statements with regard to the violation.