Docket Room

NOV 26 1985

Docket No. 50-412

Duquesne Light Company
ATTN: Mr. J. J. Carey
Vice President, Nuclear Group
Post Office Box 4
Shippingport, Pennsylvania 15077

Gentlemen:

Subject: Licensee Requested Meetings Concerning Beaver Valley Unit 2

Two meetings were held on October 8, 1985 at the NRC Region I Office to discuss Duquesne Light Company's progress and plans for Beaver Valley Power Station, Unit 2. The meetings were requested by Duquesne Light Company (DLC) to specifically address the progress of corrective actions associated with the June 7, 1985 Systematic Assessment of Licensee Performance (SALP) Report and to discuss plans for licensing of reactor operators.

The morning meeting addressed SALP corrective actions and is documented in Enclosure A. The SALP Report had identified problems in the Electrical Power Supply and Distribution functional area including cable denting, unsupported cable lengths, separation of cabinet internal wiring to meet Regulatory Guide 1.75, and electrical support plate shims. You and your staff stated that, except for the issue of using tie wraps to vertically support cables, these problems have been resolved technically, and the corrective actions are being implemented in the field. Concerning the tie wraps, either the tie wraps will be demonstrated to be technically acceptable or Kellem grips will be installed. In either case, the effect on the construction schedule is expected to be minor.

The afternoon meeting addressed your plans for licensing of reactor operators and is documented in Enclosure B. Your intention is to license sufficent operators on Beaver Valley Unit 1 such that the operators eventually licensed on Beaver Valley Unit 2 could be drawn from this pool and would have at least one year of operating experience. Also, you intend to maintain separate staffs of licensed reactor operators (ROs) for operating Unit 1 and Unit 2. However, as some of the licensed senior reactor operators (SROs) will have duties on both units, you plan to license SROs on both units. Discussions were held on the design differences between the two units and the effect these differences would have on the operator licensing process. There was also discussion on whether operator training instructors need to have SRO licenses. You agreed to make future submittals on the topics of dual unit licensing for SROs and licensing of instructors that will address the design differences between the units and the SRO equivalency of the instructors's qualifications, respectively.

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The above meetings were held for status and discussion purposes. No licensee recommendations were made for approval, and no NRC approvals or actions were taken.

The meeting was beneficial and improved our understanding of your SALP corrective actions and your operator licensing plans. We appreciate your initiative in arranging these meetings.

Sincerely,

Original Signed By:

Richard W. Starostecki, Director
Division of Reactor Projects

Enclosures: A. SALP Corrective Actions Meeting
B. Operator Licensing Meeting

cc w/encls:
E. J. Woolever, Vice President, Nuclear Construction Division
E. Ewing, Quality Assurance Manager
R. J. Swiderski, Manager, Startup Group
R. E. Martin, Manager, Engineering
E. F. Kurtz, Jr., Manager, Regulatory Affairs
P. RaySircar, Stone and Webster Engineering Corporation
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
Commonwealth of Pennsylvania

bcc w/encls:
Meeting Attendees
Region I Docket Room (with concurrences)
Management Assistant, DRMA (w/o encl)
DRP Section Chief
DRP Licensing Assistant
T. Rebelowski, SRI, Millstone 3
W. Troskoski, SRI, BV-1
B. Singh, LPM, NRR
DRP Plant File

RI:DRP	RI:DRP	RI:DRP	RI:DRP	RI:DRP	RI:DRP
Meyer/gcb	Tripp	Keller	Wenzinger	Kisten	Starostecki
11/14/85	11/18/85	11/18	11/18/85	11/20/85	11/23

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BV-2 SALP CORRECTIVE ACTIONS MEETING

1. Introduction

A meeting was held at the Region 1 office on October 8, 1985 at 9:00 A.M. The meeting had been requested by Duquesne Light Co. (DLC) to discuss their corrective actions for construction problems at Beaver Valley Unit 2 identified in the Systematic Assessment of Licensee Performance (SALP) Report. The following people attended the meeting.

NRC Attendees

T. Murley	Regional Administrator
R. Starostecki	Director, Division of Reactor Projects (DRP)
S. Ebneter	Director, Division or Reactor Safety (DRS)
E. Wenzinger	Chief, Projects Branch 3, DRP
J. Durr	Chief, Engineering Branch, DRS
L. Tripp	Chief, Project Section 3A, DRP
C. Anderson	Chief, Plant Systems Section, DRS
J. Wiggins	Chief, Materials and Processes Section, DRS
G. Walton	Senior Resident Inspector, BV-2
G. Meyer	Project Engineer, DRP

Duquesne Light Co. (DLC) Attendees

J. Carey	Vice President, Nuclear Group
E. Ewing	Manager, Quality Assurance
R. Martin	Manager, Engineering
J. Hultz	Construction Liason
E. Horvath	Site Project Engineering-Electrical

Stone and Webster (S&W) Engineering Corp. Attendees

P. Wild	Director of Engineering
C. Richardson	Project Engineer
C. Wilbur	Assistant Project Engineer
A. Wong	Lead Structural Engineer

DLC and S&W personnel presented the plans and progress of corrective actions for the problems below. NRC discussions were limited to understanding the presentations. No actions or approvals were requested or given.

2. Cable Denting

DLC reviewed the problem of denting in the insulation of electrical cables which can occur at the ends of cable raceways and conduits. Based on the cable manufacturer's recommendations, specification 2BVS-931 has

been revised to limit dents to less than half of the outer jacket. DLC has reinspected over 3,400 cable transitions for denting and has found 15 unacceptable dents. These nonconformances are being corrected. NRC Inspection Report 50-412/85-15 dated August 14, 1985 reviewed this area under Unresolved Item 84-19-01. The report found the DLC resolution acceptable, and the item was closed.

3. Unsupported Cables

DLC reviewed the problem of unsupported electrical cables in vertical raceways and outside of raceways. The unsupported cables have the potential to adversely affect the structural adequacy of the raceway and its support system during a seismic event and the electrical integrity of the cable.

To address these concerns, DLC has established lower bounds on acceptable installations in specification 2BVS-931. The National Electric Code (NEC) was used in determining the limits. Site Quality Control (SQC) is reinspecting installed cables using the specification. These criteria screen out possible problems, as acceptability is dependent on many factors of the installed configuration (e.g., number of cables, cable size, vertical or horizontal orientation, etc.). Installed cables which do not meet the screening criteria are written up as Unsupported Cable Reports (UCRs), and an engineering review is performed.

DLC reviewed Table 1 (attached) which summarizes the status of the cable reinspection. Approximately 3,000 UCRs are projected. Based on the engineering reviews to date, a large majority of UCRs have not required any additional supports to be added to the cables or raceways. The major issue to be resolved is the acceptability of tie wraps in providing vertical cable support. S&W is performing further evaluation to resolve this issue. If the installed tie wraps are unacceptable, Kellem grips, an alternative vertical support, will be used. DLC estimates that approximately 200 locations would require Kellem grips under worse case resolution. As shown in Table 1, DLC projects about 800 cable locations could require other support rework. DLC stated that the potential support rework and Kellem grip installation are manageable construction jobs and would not be expected to impact the existing fuel load schedule.

4. Separation of Electrical Cables and Cabinet Wiring

DLC reviewed the status of the resolution of electrical separation issues. Separation criteria, revised from the previous Regulatory Guide 1.75 commitments, have been justified based on a testing program implemented by DLC. The revised separation criteria resulted in the following reductions in rework.

- Cable tray covers necessary for tray to tray separation have been reduced by 75 percent.

- Cable tray covers necessary for tray to conduit separation have been eliminated.

- Cable protection wrapping has been reduced by 50 percent.

- Allowable separations of one inch (versus previous six inch) for cabinet internal wiring will greatly reduce rewiring.

DLC stated that the above separation criteria and resultant work reductions were verbally approved by NRC (NRR) on August 20, 1985 at a meeting between NRC, DLC, and S&W personnel.

5. Base Plate Shimming

DLC reviewed the problem of electrical support base plates with excessive gaps between the plate and the concrete mounting surface. An engineering review determined that gaps of one-eighth inch or less are acceptable, and specification 2BVS-931 will be revised to incorporate this limit. This revised gap criteria should minimize installations which need shims to less than 3 percent of base plates.

Further, SQC inspection of 460 base plates found 20 base plates without the necessary tack weld on the shim and 9 base plates with excessive gap. DLC is correcting these nonconformances and is continuing to inspect the remaining 2500 base plates.

6. QC Inspector Errors

The SALP Report covered DLC's resolution of their discovery of QC inspector errors. DLC reviewed their actions concerning the recent NRC discovery of additional QC inspector errors. DLC's initial evaluation has found the following factors involved in the errors:

- Inspection performed in December, 1984 was reported in March, 1985.

- The inspector's original notes were lost.

- The inspector was overloaded, but did not request assistance.

DLC stated that the existing inspector review process had sampled other inspections by the inspector and had found them acceptable.

The inspector has been suspended pending the results of an investigation. Review of other inspections by the inspector have found no other errors. Based on this, it appears the erroneous inspection was isolated. DLC is continuing the investigation and reinspection of his work.

Attached: Table 1

BV-2 OPERATOR LICENSING MEETING

1. Introduction

A meeting was held at the Region I office on October 8, 1985 at 1:00 p.m. The meeting had been requested by the Duquesne Light Co. (DLC) to discuss their plans for licensing of reactor operators on Beaver Valley Unit 2. The following people attended the meeting.

NRC Attendees

R. Starostecki	Director, Division of Reactor Projects
H. Kister	Chief, Projects Branch 1
L. Tripp	Chief, Projects Section 3A
R. Keller	Chief, Projects Section 1C
D. Johnson	Lead Examiner
G. Walton	Senior Resident Inspector, BV-2
G. Meyer	Project Engineer
D. Coe	Examiner
N. Dudley	Examiner
B. Norris	Examiner

Duquesne Light Co. Attendees

J. Carey	Vice President, Nuclear Group
J. Sieber	General Manager, Nuclear Services
T. Burns	Director, Operations Training

DLC personnel presented their plans for licensing of reactor operators for Beaver Valley Unit 2 (BV-2) as discussed below. NRC personnel discussed the potential operator licensing process given current practices and manpower levels. No actions or approvals were requested or given.

2. Differences Between BV-1 and BV-2

To ascertain its effect on operator licensing, NRC and DLC personnel discussed the differences between the designs of BV-1 and BV-2. NRC presented a preliminary listing of design differences (Enclosure 1). DLC agreed that the differences exist, but disagreed that they are sufficiently significant to affect plant operation and operator licensing. DLC stated that Westinghouse is currently evaluating the design differences and their effect on plant operation and that the evaluation is expected to be completed in late October, 1985. DLC proposed to meet with NRC in late January on this topic following their review of the evaluation. NRC agreed.

3. Reactor Operators (ROs)

DLC stated that the ROs operating BV-2 will not operate BV-1, i.e., the ROs staffing the two units will be two separate organizations. NRC agreed that this approach is desirable from a safety perspective.

DLC plans to provide licensed operators for BV-2 that have been licensed on BV-1 and have one year of experience on BV-1. The planned February 1986 license examinations are needed to provide enough BV-1 licensed operators to eventually staff both units. NRC stated that if applicants for BV-2 RO licenses have BV-1 RO licenses and experience, a licensing examination modified to account for their previously examined knowledge would be appropriate. Initial BV-2 RO examinations are planned for December, 1986 to support DLC's plans of having a half crew of licensed operators on shift.

4. Senior Reactor Operators (SROs)

DLC stated that dual licensing of SROs on BV-1 and BV-2 based on a single examination would be preferable, because the shift supervisor, an SRO, will be responsible for both plants concurrently, and the control room will be a common room shared between the two units. NRC stated that pending further evaluation of design differences, dual licensing of SROs remains a possibility.

5. Simulator Instructors

DLC noted that six of the SRO examinations scheduled for February, 1986 would be for simulator instructors. NRC stated that an SRO examination is unnecessary for simulator instructors and represents inefficient utilization of limited NRC examining personnel. Further discussion on this topic concluded that SRO qualifications for simulator instructors could be established without an examination using the following process:

-- provide classroom training on needed theory and system knowledge

-- provide simulator training

-- document the above training and experience on an SRO application

-- test the candidate's knowledge using a 3rd party examination

-- submit the above results to Region I for approval as simulator instructors

DLC agreed to pursue the above and noted that the simulator instructors would not necessarily meet all eligibility requirements (e.g., experience) for SRO licensing.

Attached: Preliminary Listing of Design Differences

Preliminary Listing of BV-1/BV-2 Design Differences

The following is a sampling of examples of plant differences that were considered major or significant.

1. BVPS 1 has analog RPI with a rod drop alarm activated by the system. BVPS 2 uses vertical rows of 39 LEDs to indicate rod position and no specific rod drop alarm was specified.

2. BVPS 1 seal injection header may be isolated from the control room. BVPS 2 SI header must be isolated locally.

3. BVPS 1 BU heaters do not trip on an SI signal. Unit 2 heaters do trip.

4. Low steam line or pressurizer pressure SI signals can only be blocked in the BVPS 1 control room. In Unit 2 they can be blocked at either the CR or ESP.

5. BVPS 1 PORV block has no automatic isolation. BVPS 2 has auto isolation of the PORV block at 2000 psig.

6. BVPS 1 PORV indication is from a limit switch. Unit 2 indicates only open position.

7. BVPS 1 PRT spray valve has no interlocks with PRT level or pressure. BVPS 2 PRT spray valve will auto open or close on high-high level or high-high pressure.

8. BVPS 1 alternate emergency boration path is locally operated. Unit 2 alternate emergency boration path may be lined up from the CR.

9. BVPS 1 does not have alternate minimum flow recirc for the charging pumps. BVPS 2 has an alternate minimum flow recirc valves that open on an SI signal while the normal recirc valves close.

10. BVPS 1 does not have remotely operated charging pump suction valves for long term recirculation, Unit 2 does.

11. BVPS 1 charging pumps cannot be racked onto the same bus simultaneously. Unit 2 charging pumps may be racked onto the same bus simultaneously.

12. BVPS 1 HHSI discharge valves used to provide a redundant path after auto transfer to recirc are manual. Unit 2's HHSI discharge valves for this mode are operated from the CR.

13. BVPS 1 has only one MOV to isolate the BIT inlet line. BVPS 2 has 2 MOVs to isolate its respective injection line.

14. BVPS 1 LHSI pumps may draw a suction from the RWST or RB sump for HHSI recirc. BVPS 2 LHSI pumps draw suction from the RWST only. The recirc spray (RSS) pumps provide suction to the HHSI pumps during SI recirc.

TABLE I

	SQC SCREENING CRITERIA	BREAKDOWN OF UCR'S REVIEWED		PROJECTED BREAKDOWN OF TOTAL UCR'S	FIRST STEP ENGINEERING EVALUATION	ESTIMATED REMAINING AFTER FIRST STEP REVIEW	FINAL ENGINEERING DISPOSITION
CABLE OUTSIDE RACEWAY	-TYPICALLY 4 FT 6 IN (K,C,E) 3 FT 0 IN (H,L) 2 FT OVER SIDERAIL (QUANTITY DEPENDENT)		164	250	FREE AIR REQUIREMENTS AND ACTUAL CABLE WEIGHT	75	CABLE SUPPORT
VERTICAL TRAY WITH ELBOW FITTINGS	4 FT 6 IN (STRUCT.) 25 FT (ELECT.)	<= 20 FT. * > 20 FT.	40 11	60 20	ENGINEERING REVIEW OF ADJACENT TRAY SUPPORTS (CABLE TIES <=25 FT.)	15	CABLE SUPPORT OR REINFORCE TRAY AND TRAY SUPPORTS
VERTICAL TRAY WITHOUT ELBOW FITTING	4 FT 6 IN (STRUCT.) 25 FT (ELECT.)	<= 20 FT. * > 20 FT.	94 45	140 70	REVIEW OF TRAY AND TRAY SUPPORTS (CABLE TIES <= 25 FT.)	60	CABLE SUPPORT OR REINFORCE TRAY AND TRAY SUPPORTS
VERTICAL CONDUIT FROM LAST POINT OF SUPPORT	4 FT 6 IN		356	530	REVIEW ACTUAL WEIGHT OF CABLE AND RACEWAY CONFIGURATION	265	TOP OF-CONDUIT CABLE SUPPORT (PIPE CLAMP) AND NEC SUPPORT IF REQ'D
	3 FT 0 IN		836	1250		250	
FLEX INSTALLATIONS	3 FT 0 IN		458	680		135	
		TOTAL	2004	3000		800	

NOTE: MORE THAN ONE UNSUPPORTED INTERFACE MAY SHOW ON ONE UCR.

* REQUIRES USE OF CABLE TIES