

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-334/80-04

Docket No. 50-334

License No. DPR-66 Priority -- Category C

Licensee: Duquesne Light Company

435 Sixth Avenue

Pittsburgh, Pennsylvania 15219

Facility Name: Beaver Valley Power Station, Unit 1

Meeting at: Industry, Pennsylvania

Meeting conducted: January 22, 1980

NRC Personnel: E. C. McCabe, Jr., for  
D. A. Beckman, Resident Inspector

2/5/80  
date signed

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date signed

Approved by: E. C. McCabe, Jr.  
E. C. McCabe, Chief, Reactor Projects Section  
No. 2, RO&NS Branch

2/5/80  
date signed

Meeting Summary:

Public Enforcement Meeting on January 22, 1980 (Report No. 50-334/80-04)

Summary: Special public enforcement meeting convened by the Director, Office of Inspection and Enforcement, to discuss the licensee's actions pursuant to an Order Modifying License, issued on December 5, 1979. The meeting was attended by senior licensee and NRC:OIE management and the public. A subsequent question and answer session was held to provide NRC responses to public concerns.

## DETAILS

### 1. Attendees

#### Duquesne Light Company (DLC)

- F. Bissert, Technical Assistant - Nuclear
- J. Carey, Director of Nuclear Operations
- C. Dunn, Vice President, Operations Division
- G. Moore, General Superintendent, Power Stations Department
- J. Sieber, Superintendent of Licensing and Compliance
- R. Washabaugh, Manager of Quality Assurance
- J. Werling, Superintendent, Beaver Valley Power Station, Unit 1  
(BVPS-1)
- H. Williams, Chief Engineer, Beaver Valley Power Station, Unit 1  
(BVPS-1)

#### U.S. Nuclear Regulatory Commission

- D. Beckman, Senior Resident Inspector, Beaver Valley Power Station,  
Unit 1
- B. Grier, Director, Region I
- E. McCabe, Chief, Reactor Projects Section No. 2
- G. Sanborn, Public Affairs Officer, Region I
- V. Stello, Jr., Director, Office of Inspection and Enforcement
- D. Wigginton, Licensing Project Manager, Office of Nuclear Reactor  
Regulation

Media representatives and the public also attended.

### 2. Background

On November 27, 1979, from approximately 8:30 a.m. to 10:30 a.m., maintenance activities rendered both ECCS and High Head Safety Injection subsystems inoperable; in that parallel, redundant suction valves in both were inoperable. Refueling Water Storage Tank (RWST) isolation valve MOV-CH-115D was removed from service for corrective maintenance at the same time that the redundant valve, MOV-CH-115B, had no emergency power available due to routine maintenance being performed on its associated Emergency Diesel Generator. MOV-CH-115B thus was incapable of automatic opening in response to a safety injection signal if there had been a condition of loss of offsite power. Upon discovery, the licensee promptly corrected this condition and reported the matter to the NRC Region I as discussed in Licensee Event Report No. 79-46 and in IE Inspection Reports Nos. 50-334/79-24 and 50-334/79-30. The apparent causes of this event were human error and weak control of maintenance and essential equipment.

On December 5, 1979, the Director, OIE, issued to the President, Duquesne Light Company, a Notice of Violation, a Notice of Proposed Imposition of Civil Penalty, and an Order Modifying License. By letter dated December 24, 1979, the licensee forwarded payment of the Proposed Civil Penalty in the amount of \$5,000.00. The Order Modifying License required, in part, the following additional action on the part of the licensee:

- a. Administrative procedures to be adopted and implemented to require redundant independent verification of the operability of the remaining engineered safety features whenever any safety system or subpart thereof, is intentionally removed from service.
- b. A detailed review of existing procedures and controls to assure that limiting conditions for operation are not defeated by maintenance or other activities.
- c. A report of the procedural and review actions taken to be submitted by January 11, 1980, to the Director of NRC's Region I office.
- d. A meeting with the Director, Office of Inspection and Enforcement, on or before January 25, 1980, open to the public, near the Beaver Valley site, to describe how the above requirements will be implemented.

By letter dated January 10, 1980, the licensee provided the report of subparagraph 2.c above, to the Director, Region I. That report documented completion of activities required by subparagraphs 2.a and 2.b above.

Pursuant to subparagraph 2.d, the meeting discussed by this report was conducted on January 22, 1980.

### 3. Meeting Summary

The meeting was conducted in two sessions. An afternoon session (3:00 p.m. to 5:00 p.m.) was devoted to a licensee presentation of corrective actions and included dialogue between the licensee and NRC in response to NRC questions. This session, though public, did not include audience participation. An evening session (7:00 p.m. to 9:30 p.m.) was provided to permit the public to question the NRC staff. The licensee responded to public questions in the evening session on a voluntary basis.

#### a. Afternoon Session

The first session opened by the Director, Office of Inspection and Enforcement, with a description of the event of November 27, 1979; its significance; its causes; and the potential consequences. Enforcement

actions were presented for the benefit of the audience. The significance of the apparent breakdown in the licensee's control of activities critical to safety was identified as the primary reason for the enforcement action taken by the NRC, with the safety significance of the event identified as small because of the short period of noncompliance. The Director also stated that a purpose of the meeting was to provide the public with a better understanding of the NRC's regulatory processes.

Following the opening remarks, the DLC Vice President, Operations Division, opened the licensee's presentation with a review of the conditions of the NRC Order and an acknowledgement of the events as reported to the NRC in regard to the activities of November 27, 1979. The causal factors of procedure inadequacies and human error were discussed and the corrective and preventive actions taken were stated to be sufficient to prevent recurrence on the basis of the Vice President's personal review.

The DLC General Superintendent, Power Stations Department, summarized the chronology of licensee management review and involvement in the associated activities since November 27, 1979 including: the immediate review of the event following its occurrence; the appointment and activities of a Special Investigating Team constituted to review all aspects of the event; development and issuance of responses to the Notice of Proposed Imposition of Civil Penalty and Order Modifying License; activities of the Onsite Safety Committee and Offsite Review Committee which were associated with the event; company correspondence issued to the licensed operators involved in the event; promulgation of a senior management policy statement regarding responsibilities of licensed operators; organizational changes to improve staff capabilities to prevent such events; and planned training programs for plant staff and operating personnel to ensure their understanding of their responsibilities.

The DLC Director of Nuclear Operations discussed recent organizational changes effected to augment the licensee's managerial resources. These included the establishment of the Director of Nuclear Operations position and a Licensing and Compliance Section in the Power Stations Department. The changes are intended to relieve station management of duties such as management of licensee activities in response to IE Bulletins, Circulars, Information Notices, NRC requests for information, NRC correspondence, etc. The licensee anticipates that this will permit station management to more effectively direct these attention and resources station operation. Details of these organization changes are further discussed in IE Inspection Report No. 50-334/79-21 and the December 5, 1979 DLC letter in response thereto.

The DLC Director of Nuclear Operations also presented the chronology and results of his personal involvement and review of the licensee's actions regarding the November 27 event, including his personal verification of the implementation of procedural changes by direct observation of their in-plant use.

The results of the licensee's detailed procedure review and changes resulting therefrom were presented by the Superintendent, BVPS-1. This discussion, including questions from and dialogue with the NRC staff including the following information:

- (1) A chronology of actions taken by the licensee's station staff in response to the subject event was presented, including: notification of senior management and the NRC; immediate corrective action initiated by on-shift operators; reviews conducted by Station Operating Supervisor and Onsite Safety Committee immediately following the event as well as subsequent to receipt of the Order Modifying License; and the personal involvement of the Superintendent in these activities.
- (2) The results of the immediate plant management reviews were presented including the following actions:
  - Acknowledgement by station management that the immediate corrective actions and notifications initiated by the Shift Supervisor were correct and timely;
  - A review of each station department's administrative procedures was conducted and the procedure changes as discussed herein were implemented. All other procedures were defined acceptable by DLC as currently established.
  - The BVPS Operating Manual (OM), Chapter 1.48, Conduct of Operations, was revised to provide better definition of the generic term "Engineered Safety Features" (ESF), for use by all station personnel.
  - OM Chapter 1.48 was revised to reduce the non-operational duties of the Shift Supervisor. Additional action was taken immediately upon notification of the incident on November 27 to relieve the shift supervisor of administrative duties associated with granting security access authorizations. The licensee noted that this reduction had been planned prior to the incident but had not yet been implemented.
  - OM Chapter 1.48 was revised to clarify the line of authority of licensed personnel in the control room.

- OM Chapter 1.48 was revised to require the use of watch turnover checklists by Nuclear Control Operators, Nuclear Shift Operating Foremen, and Shift Supervisors to ensure that information regarding equipment which is out of service is consistently and accurately passed from shift to shift. The checklists also include other information regarding routine activities and operating abnormalities. The content and use of these checklists were discussed in response to NRC questions.
- OM Chapter 1.48 was revised to provide the Shift Supervisor with the authority to suspend all activities not required for the safe operation of the facility should those activities become so numerous that the proper amount of attention is not available to assure that nuclear safety or the requirements of the operations quality assurance program are being properly implemented. During additional dialogue with the NRC staff present, the DLC Vice President, Operations Division, reaffirmed the above as company policy, including the recognition by DLC management that the Shift Supervisors' authority was intended to transcend any economic considerations for lost production or the cost impact of his actions where such actions are necessary to ensure safe operations of the facility.
- OM Chapter 1.48 was revised to require the use of Emergency Safeguards Equipment Clearance Checklists in the processing of ESF equipment which is to be removed from or returned to service. The checklist, required to be completed before a piece of ESF equipment is removed from service, is intended to provide redundant independent verification that the redundant (standby) train of ESF equipment corresponding to that which is being removed from service is operable. Multiple verifications are now made by licensed, on-shift personnel and are documented by their signature on the checklist form. The licensee intends to assign Shift Technical Advisors (as discussed in NUREG 0578, TMI Lessons Learned Report) to onshift duties prior to the plant heatup following the current outage. At that time, the Shift Technical Advisors (STA) are expected to participate in the independent reviews required by the checklists. The role of the STA in checklist activities and the various aspects of the checklist's requirements for redundant independent verification were discussed by the DLC and NRC staffs.

- Additional priority has been placed on minimizing the time that an ESF system or component is out of service by placing high priority on its expeditious return to service when maintenance activities are complete. This requirement has been added to OM Chapter 1.48.
- Changes were made to existing procedures in OM Chapter 1.48 to improve the practices associated with the "System Level Status Board." The status board contains backlighted windows which, when lighted by the operator, identify which major ESF components or subsystems are inoperable or otherwise unavailable. Operators are now required to light the entire ESF train on the status board when a component is removed from service which would render an entire train inoperable, e.g., an emergency diesel generator which is unavailable for service removes the source of onsite emergency AC power from all train components although redundant offsite power sources may be available to power the subject components under both normal and accident conditions. The format and display features of the status board were discussed by the DLC and NRC staff with regard to improving the board's capabilities to indicate the actual status of a displayed component, e.g., totally inoperable vs. equipment functional but no emergency power use and features of the status board will be subject of ongoing review by both DLC and NRC. No specific commitments resulted from these discussions.
- The licensee has committed to revise the "initial conditions" section of each Maintenance Surveillance Procedure which is applicable to ESF instrumentation to provide for independent verification of redundant channel operability prior to proceeding with the performance of the procedure. In response to questions from the NRC staff, the Superintendent, BVPS-1, stated that incorporation of the above provision in the approximately 500 procedures affected awaits development of a suitable generic statement of the intended requirement. Some of the affected procedures are now in use but are being preplanned and prescheduled, and are being controlled via individual review and release by the Shift Supervisor. The licensee committed that above written provision would be incorporated in each procedure prior to its use commencing with those procedures performed immediately prior to the next plant heatup and those which will be performed as prerequisites for plant startup from the current outage. The outage is scheduled to be completed in July, 1980. Completion of this commitment will be inspected by the NRC (80-04-02).

- The licensee verbally reconstructed the events leading to the incident on November 27, comparing the actual processing of the equipment clearance with that which would occur under the revised administrative controls. That reconstruction, requested by the NRC staff, demonstrated the differences in requirements and processing which have resulted from the new controls.

During the discussions, the licensee acknowledged the contribution of administrative workload to the personnel errors made. The NRC staff acknowledged the corrective action taken to relieve onshift personnel of non-operational duties but expressed concern that other plant staff positions, including the Superintendent and his staff, should be reviewed to ensure that their duties and workload are appropriate to their respective nuclear safety responsibilities and do not impede the individuals in the discharge of such responsibilities.

The Director of Nuclear Operations stated that, in response to prior direction from the General Superintendent, Power Stations Department, his staff is required to complete such a review and provide their findings and recommendations to senior licensee management during the second quarter of CY 1980. Further, the Vice President, Operations Division, stated that a similar review is to be incorporated into the 1980 Annual QA Program Management Review with respect to positions which have functional responsibilities under the Operations Quality Assurance Program. The Technician Assistant - Nuclear has also been directed, as an ongoing assignment, to review the various training programs and training resources to ensure that each individual with nuclear safety responsibilities receives adequate training for their respective job functions. This assignment includes review of positions in addition to those which require NRC licenses. The NRC acknowledged these licensee commitments and will follow up on their completion (80-04-03).

In addition to the foregoing, the Technical Assistant - Nuclear presented plans which are in progress to upgrade the training of both supervisory and nonsupervisory licensed personnel. A consultant has been retained by DLC to provide intensive training sessions on command responsibility, communications, leadership, problem solving, and related subjects which is intended to improve the individuals awareness of job responsibilities and personal performance. A schedule which includes three one-day sessions for supervisors and two one-day sessions for nonsupervisors has

been established for the months of February through June. Additional dialogue with the licensee established that the above program was intended to supplement existing training and will be evaluated for expansion after the first complete performance. NRC inspection of this item (80-04-04) will be accomplished.

The Director, OIE, closed the afternoon meeting session stating that the licensee's presentation appeared to address the conditions of the Order Modifying License and, in the interest of expeditious disposition, the implementation of the material presented would be inspected by NRC inspectors at the earliest opportunity. The Order will remain in force pending the completion of such inspections (80-04-01).

b. Evening Session

The evening meeting was convened at 7:00 p.m. Following general introductory remarks by the Director, OIE, the floor was opened to questions from the audience. Although the questions were generally directed at members of the NRC staff present, the licensee representatives present responded voluntarily to questions concerning their operations. The topics discussed included:

- Generic and Plant Specific aspects of emergency planning, including the evacuation plan;
- Further discussion of the event of November 27, 1979;
- The consequences and lessons learned from the Three Mile Island accident and their applicability to BVPS and its environs;
- Monitoring of plant effluents, and their environmental effects;
- The NRC regulatory processes;
- The bases for regulatory decisions and positions with regard to accident studies; and,
- A release of radioactive steam which occurred at BVPS on January 19, 1980 and the response of plant, NRC, and local officials to the event.

The meeting was adjourned about 9:30 p.m.