

U. S. NUCLEAR REGULATORY COMMISSION
REGION 1

Report Nos. 91-334/91-26
91-412/91-25

Docket Nos. 50-334
50-412

License Nos. DPR-66
NPF-73

Licensee: Duquesne Light Company
One Oxford Center
301 Grant Street
Pittsburgh, PA 15279

Facility: Beaver Valley Power Station, Units 1 and 2

Location: Shippingport, Pennsylvania

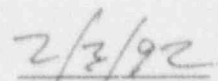
Inspection Period: December 1, 1991 - January 4, 1992

Inspectors: J. E. Beall, Senior Resident Inspector
P. R. Wilson, Resident Inspector

Approved by:



William Ruland, Chief
Reactor Projects Section No. 4B



Date

Inspection Summary

This inspection report documents core and regional initiative inspections during day and backshift hours of station activities in the areas of the following: plant operations; radiological protection; surveillance and maintenance; emergency preparedness; security; engineering and technical support; and safety assessment/quality verification.

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* The NRC manual inspection procedure (IP) or temporary instruction (TI) is listed for each applicable report section.	

EXECUTIVE SUMMARY

Beaver Valley Power Station
Report Nos. 50-334/91-26 & 50-412/91-25

Plant Operations

Both units operated at power throughout the period without any significant operational events. Housekeeping at both units was excellent.

Radiological Protection

Routine review of the area identified no noteworthy observations.

Maintenance and Surveillance

Routine review of maintenance activities identified no noteworthy observations.

Emergency Preparedness

Routine review of this area identified no noteworthy observations.

Security

Routine review of the implementation of the site security program identified no noteworthy observations. Licensee actions in response to a positive drug test result involving an individual licensed under 10 CFR 50.55 were found to be prompt and effective. A minor weakness in understanding the reporting requirements of 10 CFR 26.73 caused a delay in reporting the test result.

Engineering and Technical Support

Routine review of this area identified no noteworthy observations.

Safety Assessment/Quality Verification

The licensee's program for the conduct of 10 CFR 50.59 safety evaluations was found to be very good with high quality training and procedural guidance. The level of program performance was indicative of the continued effectiveness of corrective actions taken to address previous NRC concerns. Reviewed safety evaluations were found to be of high quality and the preparers were found to be knowledgeable. One potential weakness was identified with respect to documented evaluation assumptions which will be followed up as part of the routine inspection program.

DETAILS

1.0 SUMMARY OF FACILITY ACTIVITIES

1.1 Licensee Activities

At the beginning of the period, Unit 1 was operating at approximately 91 percent power and Unit 2 was operating at approximately 46 percent power. Both units were in the process of recovering from forced outages (see IR 50-334/91-23; 50-412/91-22). On December 2, both units returned to full power operation. Unit 1 continued to operate at full power for the remainder of the period. On December 6, Unit 2 reduced power to approximately 47 percent to allow for main condenser water box maintenance. Unit 2 returned to full power operation on December 8. Unit 2 operated at full power until December 25 when power was reduced to approximately 29 percent for boric acid treatment of the secondary side of the steam generator. Unit 2 returned to full power operation on December 30 and operated at full power for the remainder of the period.

1.2 NRC Staff Activities

This inspection assessed the adequacy of licensee activities for reactor safety, safeguards, and radiation protection. The inspectors made this assessment by reviewing information on a sampling basis. Information was obtained through actual observation of licensee activities, interviews with licensee personnel, and documentation reviews.

Inspections were conducted on both normal and backshift hours: 15 hours of direct inspection were conducted on backshift; 41 hours were conducted on deep backshift. The times of backshift hours were adjusted weekly to assure randomness.

2.0 PLANT OPERATIONS (IP 71707, 71710, 93702)

2.1 Operational Safety Verification

The inspectors observed plant operation and verified that the plant was operated safely and in accordance with licensee procedures and regulatory requirements. Regular tours were conducted in the following plant areas:

- Control Room
- Auxiliary Buildings
- Switchgear Areas
- Access Control Points
- Protected Areas
- Spent Fuel
- Diesel Generator Buildings
- Safeguard Areas
- Service Buildings
- Turbine Buildings
- Intake Structure
- Yard Areas
- Containment Penetration Areas

During the course of the inspection, discussions were conducted with operators concerning knowledge of recent changes to procedures, facility configuration, and plant conditions. The inspector verified adherence to approved procedures for ongoing activities observed. Shift turnovers were witnessed and staffing requirements confirmed. The inspectors found that control room access was properly controlled and a professional atmosphere was maintained. Inspector comments or questions resulting from these reviews were resolved by licensee personnel.

Control room instruments and plant computer indications were observed for correlation between channels and for conformance with Technical Specification (TS) requirements. Operability of engineered safety features, other safety related systems, and onsite and offsite power sources were verified. The inspectors observed various alarm conditions and confirmed that operator response was in accordance with plant operating procedures. Compliance with TS and implementation of appropriate action statements for equipment out of service was inspected. Logs and records were reviewed to determine if entries were accurate and identified equipment status or deficiencies. These records included operating logs, turnover sheets, system safety tags, and the jumper and lifted lead book. The inspector also examined the condition of various fire protection, meteorological, and seismic monitoring systems.

Plant housekeeping controls were monitored, including control and storage of flammable material and other potential safety hazards. The inspector conducted detailed walkdowns of accessible areas of both Unit 1 and Unit 2. Housekeeping at both units was excellent.

2.2 Engineered Safety Features System Walkdown

The operability of selected engineered safety feature systems was verified by performing detailed walkdowns of the accessible portions of the systems. The inspectors confirmed that system components were in the required alignments, instrumentation was valved-in with appropriate calibration dates, as-built prints reflected the as-installed systems, and the overall conditions observed were satisfactory. The systems inspected during this period include the Emergency Diesel Generators, Safety Injection, Auxiliary Feed, and Recirculation Spray systems. No concerns were identified.

3.0 RADIOLOGICAL CONTROLS (IP 71707)

Posting and control of radiation and high radiation areas were inspected. Radiation Work Permit compliance and use of personnel monitoring devices were checked. Conditions of step-off pads, disposal of protective clothing, radiation control job coverage, area monitor operability and calibration (portable and permanent), and personnel frisking were observed on a sampling basis.

There were no notable observations.

4.0 MAINTENANCE AND SURVEILLANCE (IP 61726, 62703, 71707)

4.1 Maintenance Observation

The inspector reviewed selected maintenance activities to assure that:

- the activity did not violate Technical Specification Limiting Conditions for Operation and that redundant components were operable;
- required approvals and releases had been obtained prior to commencing work;
- procedures used for the task were adequate and work was within the skills of the trade;
- activities were accomplished by qualified personnel;
- where necessary, radiological and fire preventive controls were adequate and implemented;
- QC hold points were established where required and observed; and
- equipment was properly tested and returned to service.

Maintenance activities reviewed included:

SWR 005682	Recalibrate IICP-7-PI 151
SWR 005686	Repair Isolation Valve Leak
SWR 005688	Clean off Encrusted Boron

There were no notable observations.

4.2 Surveillance Observations

The inspectors witnessed/reviewed selected surveillance tests to determine whether properly approved procedures were in use, details were adequate, test instrumentation was properly calibrated and used, Technical Specifications were satisfied, testing was performed by qualified personnel, and test results satisfied acceptance criteria or were properly dispositioned. The following surveillance testing activities were reviewed:

OST 1/2 44A.1 Unit 1/2 Control Room Emergency Habitability System Check

OST 2 24.3 Motor Driven Auxiliary Feed Pump [2FWE*P23B] Test

There were no notable observations.

5.0 EMERGENCY PREPAREDNESS (IP 71707)

The resident inspectors had no noteworthy findings during this inspection period.

6.0 SECURITY (IP 71707)

Implementation of the Physical Security Plan was observed in various plant areas with regard to the following:

- protected Area and Vital Area barriers were well maintained and not compromised;
- isolation zones were clear;
- personnel and vehicles entering and packages being delivered to the Protected Area were properly searched and access control was in accordance with approved licensee procedures;
- persons granted access to the site were badged to indicate whether they have unescorted access or escorted authorization;
- security access controls to Vital Areas were maintained and persons in Vital Areas were authorized;
- security posts were adequately staffed and equipped, security personnel were alert and knowledgeable regarding position requirements, and that written procedures were available; and
- adequate illumination was maintained.

6.1 Positive Drug Test

On December 5, 1991, based on the results of a random fitness for duty urinalysis test conducted on November 27, a shift technical advisor (STA) was identified as testing positive for marijuana use. The STA was licensed as a Senior Reactor Operator limited to fuel handling. The licensee promptly suspended and subsequently terminated the individual's employment. The licensee conducted a review of the safety-related work performed by the individual between November 27 and December 5, 1991, and found no deficiencies. At the end of the report period, the licensee was in the process of performing a review of safety-

related work performed by the individual during the previous six months. No problems had been identified at the close of the inspection period.

The NRC is required to be notified per 10 CFR 26.73 within 24 hours following the confirmed positive drug test by any person licensed under 10 CFR 55 to operate a power reactor. However, the licensee failed to make the required notification until January 3, 1992, following a review of the occurrence by the site licensing department which concluded the positive drug test of the above individual was reportable.

The inspector was informed that the 24 hour notification was not made because the licensee believed that the individual, while licensed to handle fuel, was not licensed to operate a power reactor and, therefore, the occurrence was not reportable under 10 CFR 26.73. The inspector reviewed the licensee's Nuclear Group Administrative Procedure (NGAP) 5.1, "Reporting Requirements" (Revision 2). The inspector found that the NGAP contained requirements for making the 24 hour notification; however, it did not provide detailed guidance on which 10 CFR 55 operator licenses were affected by the reporting requirements.

The inspector found that the licensee took prompt action following the confirmed positive drug test. There appeared to be no nuclear safety significance from the occurrence. The licensee's failure to make a required 24 hour notification was considered to be a minor weakness in the understanding of the 10 CFR 26.73 reporting requirement. The inspector noted at the end of the period that the appropriate site managers were aware that licensed operators limited to fuel handling were to be included in the 10.CFR 26 reporting requirements. The inspector had no further questions.

7.0 ENGINEERING AND TECHNICAL SUPPORT (IP 37700, 37828, 71707)

The resident inspectors had no noteworthy findings during this inspection period.

8.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (IP 40500, 71707, 90712, 91700)

8.1 Review of Written Reports

The inspector reviewed LERs and other reports submitted to the NRC to verify that the details of the events were clearly reported, including accuracy of the description of cause and adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were indicated, and whether the event warranted onsite followup. The following LERs were reviewed:

Unit 1:

- 91-29-00 Auxiliary Feedwater Pump Actuation Due to Low-Low Steam Generator Level
- 91-30-00 Inadequate Filter Bank Surveillance Testing
- 91-31-00 Engineered Safety Features Actuation - Auto Start of 1B River Water Pump During Maintenance Activities
- 91-32-00 Inadequate Ventilation Flow from High Head Safety Injection Pump Cubicles

Unit 2:

- 91-05-00 Reactor Trip Due to Spurious Component Actuation

The above LERs were reviewed with respect to the requirements of 10 CFR 50.73 and the guidance provided in NUREG 1022. Generally, the LERs were found to be of high quality with good documentation of event analyses, root cause determinations, and corrective actions.

8.2 Safety Evaluation Program Review

The inspector conducted a review of the licensee's program for performing safety evaluations. Licensees are required (10 CFR 50.59) to evaluate proposed changes to the facility to assure that each change does not involve an unreviewed safety question. Complex permanent modifications and simple temporary modifications provide different but significant challenges to the evaluation process.

Mistakes in the performance of 10 CFR 50.59 reviews were noted as contributors to plant events or degraded conditions in previous NRC Inspection Reports (IR 50-334/88-12, IR 50-334/88-25; 50-412/88-19, IR 50-334/88-28; 50-412/88-22, and IR 50-334/89-01; 50-412/89-01). Corrective actions were noted to have been effective in resolving NRC concerns (IR 50-334/90-22; 50-412/90-22). During the current period, the inspector conducted an assessment of the licensee's program and the continued effectiveness of the corrective actions implemented in response to NRC concerns.

The inspector reviewed Nuclear Group Administrative Manual (NGAM) 8.18, "10 CFR 50.59 Evaluations," which was implemented on May 7, 1990. The inspector found that this procedure provided the licensee's minimum requirements for a 10 CFR 50.59 safety evaluation and provided extensive guidance on how to prepare an evaluation. The requirements applied to both permanent and temporary modifications and incorporated the guidance given in Nuclear Safety Analysis Center (NSAC) 125. Similarly, the inspector reviewed NGAM 7.4, "Temporary Modifications," Revision 1, and found it to effectively control the implementation and duration of temporary modifications. A review of the

licensee's training program for the conduct of 10 CFR 50.59 safety evaluations found it to be of high quality and that all Operations Safety Committee (OSC) members and alternates had received appropriate training.

The inspector reviewed a sample of 30 selected 10 CFR 50.59 safety evaluations associated with permanent design changes or temporary modifications. The inspector found the detail and thoroughness of the analyses generally to be good. The inspector interviewed the preparers and reviewers of many of the evaluations to assess their knowledge and training and to question the bases of their conclusions.

No significant deficiencies were identified, but the inspector found some instances where the bases for conclusions were not well documented. For example, not all evaluations listed the UFSAR design bases accidents chapter as a reference. One evaluation, associated with Design Change Package (DCP) 1731, involved replacement of one air compressor with one of a different model but contained assessments based on the new compressor being "an identical replacement model." Because the exact design characteristics of the new compressor were not known, the safety evaluation stated that the "emergency power system must be able to handle" the load associated with the new air compressor without being able to confirm it.

The inspector conducted an independent review of the proposed modifications and did not identify any significant concerns. Interviews with the 10 CFR 50.59 evaluation preparers found no evidence of pressure to complete reviews or to conclude that no unreviewed safety questions existed. The conclusions based on incomplete design information (such as DCP 1731) were found to have been made on a routine basis with statements intended to document assumptions (such as EDG loading for DCP 1731). The proposer of the modification was tasked to initiate a new evaluation if revisions went outside the assumptions of the previous evaluation.

The inspector found this reliance on the proposer of the modification to represent a potential weakness. A change to a completed modification package necessitates a new 10 CFR 50.59 evaluation and subsequent collegial review by the OSC. A similar change in a proposal would require the engineer to determine if the revision was still covered by the 10 CFR 50.59 evaluation assumptions. The reassessment is not mandated or controlled by procedure and does not involve collegial review. The licensee acknowledged the inspector's concern and indicated that the item would be reviewed.

In summary, the licensee's program for the conduct of 10 CFR 50.59 safety evaluations was found to be very good with high quality training and procedural guidance. The level of program performance was indicative of the continued effectiveness of corrective actions taken to address previous NRC concerns. Reviewed safety evaluations were found to be of high quality and the preparers were found to be knowledgeable. One potential weakness was identified with respect to documented evaluation assumptions which will be followed up as part of the routine inspection program.

9.0 EXIT MEETING

9.1 Preliminary Inspection Findings Exit

Meetings were held with senior facility management throughout the inspection to discuss the inspection scope and findings. A summary of the findings was further discussed with the licensee at the conclusion of the report period on January 13, 1991.

9.2 Attendance at Exit Meetings Conducted by Region-Based Inspectors

<u>Dates</u>	<u>Subject</u>	<u>Inspection Report No.</u>	<u>Reporting Inspector</u>
12/02/91; 12/06/91	Environmental & Meteorological Monitoring	50-334/91-25 50-412/91-24	Struckmeyer
11/18/91; 12/06/91	EDSFI	50/334/91-80; 50-412/91-80	Della Greca