

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report Nos.: 50-334/88-20 License Nos.: DPR-66
50-412/88-12 NPF-73

Licensee: Duquesne Light Company
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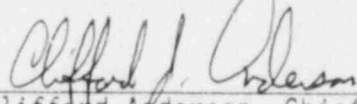
Facility Name: Beaver Valley Power Station, Units 1 and 2

Inspection At: Shippingport, Pennsylvania

Inspection Conducted: May 9-13, 1988

Inspector: C. Ramsey, Reactor Inspector

Approved By:


Clifford Anderson, Chief
Plant Systems Section, DRS

6/6/88
Date Signed

Inspection Summary: Combined Inspection Report No. 50-334/88-20 and 50-412/88-12 - May 9-13, 1988

Areas Inspected: Routine inspection by a Region based inspector of licensee actions on fire protection program activities.

Results: No violations were identified. Two unresolved items were opened regarding Unit 1 and Unit 2 fire pump reliability (section 2.5.4) and excessive storage of combustible liquids inside the intake structure (section 5.1).

DETAILS

1.0 Persons Contacted

During the report period, interviews and discussions were conducted with members of licensee management and staff as necessary to support inspection activities.

2.0 Routine Program Review

Beaver Valley Units 1 and 2 operating licenses establish the requirements for implementing and maintaining in effect all or certain provisions of the NRC approved fire protection program. The results of the inspectors review of the licensee's performance in implementing these activities are as follows:

2.1 Qualified Fire Protection Staff Involvement

The Manager, Nuclear Safety, has the responsibility for overall administration of the fire protection program. Implementation and assessment of the effectiveness of the program is delegated to a Senior Licensing Supervisor who supervises two qualified fire protection engineers that are responsible for the day-to-day implementation of the program. To verify the fire protection engineers' participation in the facility's design review process, the inspector reviewed Design Change Package (DCP) No. 703, dated April 25, 1986, which involved the installation of general area fire detection and suppression systems with common control room alarms and annunciation. Station Modification Request (SMR) No. 967 for the DCP contained the appropriate fire protection review. The review was properly performed prior to the issuance of the DCP. For DCP No. 703, the inspector determined that the appropriate discipline review of the design change was performed in accordance with section 6 of plant technical specifications.

The inspector's further review of observation No. 6 of Quality Assurance Audit Report No. BV-C-87-12, dated December 10, 1987, disclosed that the audit identified deficiencies in this area that indicate there has not been consistent involvement in the facility's design review process by fire protection engineers. In response to the audit report observation, the licensee revised Maintenance Manual Chapter 13 and Station Administrative Procedure (SAP) Nos. 3D and 9D to require the review of DCP's and Maintenance Work Requests (MWRs) that are categorized as "F" (Fire Protection Related) by fire protection engineers.

During plant tours, the inspector questioned the licensee's modification (addition of a wood and plexiglass weather enclosure) to the unit 2 south Control Room entrance/exit. This modification involved erecting a temporary structure made of wood and plexiglass and attaching it to the south Control Room exterior wall which is rated for a fire endurance of 3-hours and is a fire area boundary for fire area CB-3. According to the licensee, this modification was installed by Maintenance Work Request (MWR) but, the MWR was not reviewed by a fire protection engineer.

However, during the inspection, the licensee provided the inspector with a fire protection engineers evaluation of the modification which indicate that the exterior wall is sufficiently fire rated to withstand the total heat load distribution of 50,000 BTU's per square foot (fire duration approximately 35 minutes) that is represented by the modification. The fire protection engineer's evaluation concluded that the combustible loading contribution to the exterior wall fire area boundary was insignificant when compared with the fire endurance rating of the wall and the construction of the installed exterior security door in the wall that permits entrance/egress to the Unit 2 Control Room.

Because there was no review of the MWR for the modification by a fire protection engineer, the licensee indicated during the inspection that a further review of the facility's design review process would be performed and efforts would be made to enhance this process such as training of appropriate personnel to categorize MWR's "F" when there is any potential for them to have a fire protection impact. The licensee further explained that it is not practical to have fire protection engineers review all MWR's because of the volume of MWR's that are produced for work that is not fire protection related. The inspector concurred with this position.

2.2 Administrative Procedures

The following fire protection program administrative procedures were reviewed by the inspector:

2.2.1 General Work Practice For Fire Prevention - (GWP-2)

The inspector's review of this procedure was satisfactory.

2.2.2 General Work Practice For Maintenance of Fire Barriers and Fire Doors - (GWP-3).

The inspector's review of this procedure was satisfactory. However, during the inspection, the NRC Senior Resident Inspector expressed concern that fire doors were not being properly maintained. Of particular concern to the resident inspector were fire door Nos. CR-07-3 and CR-07-4 located in the unit 2 Control Building. These doors enable gaseous fire suppression hold times to be achieved and are required by Table 1 of Chapter 9D of the licensee's Site Administrative Procedures (Operability Requirements for Fire Protection Systems) to be restored to an operable status within 7 days.

Prior to the exit meeting for this inspection on May 13, 1988, the Senior Resident Inspector verified that MWR No 04197, dated April 2, 1988, requiring repair of a broken latching mechanism on door No. CR-07-3 and MWR No. 8567, dated April 2, 1988, requiring repair of a defective latch plate and rubber gasket at the bottom of door No. CR-07-4 were still outstanding. This concern will be discussed further by the Senior Resident Inspector in a subsequent NRC inspection report.

2.2.3 General Work Practice For Cutting, Welding, Grinding and Open Flame Work (GWP-1).

The inspector's review of this procedure was satisfactory. However, during plant tours of elevation 735 feet of the Auxiliary Building, the inspector and the licensee's staff observed a grinding activity being improperly conducted in an area above the "B" charging pump. A fire watch was present as required by procedure No. GWP-1. However, while the worker was performing the grinding activity, sparks were being propelled over the (approximate 3 foot high) shielding that was provided for spark control through the floor grating into the "B" charging pump room and around both sides of the shielding (approximately 3 feet wide) on to a combustible container containing "Anti C's" and a red safety can (indicating a container of flammable liquid).

In response to this condition, the licensee discontinued the grinding activity and performed an immediate investigation of the grinding permit and instructions provided to the workers. The licensee concluded that this was an isolated incident that was attributed to a misunderstanding of the work instructions by the workers. Based on the resident inspectors previous observations of work performed in accordance with this procedure, the inspector concurred with the licensee's position.

2.3. Fire Brigade Training

The inspector's review of the licensee's classroom lesson plans for a fire brigade training session dated January 4, 1988 and the lesson plan for Annual Hands-On Fire Ground Evolutions dated April, 1988 was satisfactory. Based on the inspectors review, it appears that the goals and objectives of the fire brigade training program are being met through comprehensive classroom and internal structural firefighting training.

2.4. Offsite Fire Department Assistance

The inspector's review of the licensee's Mutual Aid Response Plan for offsite fire department assistance dated September 2, 1987 indicates that adequate measures have been taken to assure that this backup capability is provided to augment the site fire brigade. At the time of the inspection, there were 4 primary and 6 secondary fire departments participating in the licensee's mutual aid response plan. The licensee indicated that the response plan was being revised to provide for 5 primary and 5 secondary responses. All primary responding departments receive site familiarization tours and participate in annual drills.

2.5. Equipment Maintenance

The results of the inspector's review of the licensee's Fire Protection Equipment Maintenance Program are as follows:

2.5.1. Fire Detection Instrumentation

The inspector determined that the results of periodic surveillance No. OST 1.33.16, dated April 28, 1988 were satisfactory. In addition to performing circuit alarm functional test on fire detection instrumentation, the licensee also satisfactorily performed smoke tests and sensitivity testing of individual fire detector units.

The licensee indicated that future long term plans are to enhance the fire detection system for both units by installing upgraded alarm annunciator panels and printers. The licensee further indicated that potential difference in the operability wording between unit 1 and unit 2 technical specifications and administrative controls for operability will be discussed with NRR in order to achieve consistency.

2.5.2. Carbon Dioxide Fire Suppression Systems

The inspector determined that the results of periodic surveillance No. OST 1.33.10, dated March 12, 1987 were satisfactory. The operability of the systems were verified through fire detector alarm actuation as well as limited CO2 flow through system nozzles. Associated fire doors and fire dampers did not appear to be verified operable during this test. However, these components are verified operable in separate surveillance tests.

2.5.3. Automatic Sprinkler Fire Suppression Systems

The inspector determined that the results of periodic surveillance no. OST 1.33.6, dated December 12, 1987 were satisfactory. The systems were verified operable through alarm system actuation, valve actuation and simulated water flow.

2.5.4. Station Fire Pumps

The licensee was in the process of revising periodic surveillance No. OST 1.33.12 for the station fire pumps for enhancement purposes and because of recent modifications to the electric fire pump. The inspector's review of the preliminary test results and the results of previous baseline tests for the electric and diesel fire pumps disclosed anomalies and deviations from the governing code acceptance criteria. One test anomaly common to both pumps appears to be associated with the set point of circulating water relief valves installed on the discharge of the pumps. A shut-off test (churn test with no flow) was not performed on either pump. This appears to be a deviation from governing code (NFPA 20) requirements. The licensee indicated that this deviation is necessary because of the lower set point of the circulating water relief valve on the discharge side of the pumps. The inspector informed the licensee that while such a deviation may not affect the actual performance of the pumps, the inspector questioned the reliability of the station fire pump installation for the following reasons:

2.5.4.1. Pressure Maintenance System

To maintain normal system pressure on the fire water supply system and prevent excessive operation of the main fire pumps, a pressure maintenance system consisting of a small jockey pump, hydropneumatic tank and air compressor is provided. Both the jockey pump and air compressor appeared to be in need of maintenance for excessive oil leaks. With this system inoperative, the electric pump is required to operate more frequently to make up small flows or system leakage. The diesel pump is the backup for the electric pump. However, the diesel pump also appeared to be in need of maintenance for excessive oil leaks.

2.5.4.2. Previous Surveillance Test Results

Although the licensee indicated that periodic surveillance test procedure no. OST 1.33.12 was being revised to enhance fire pump testing, the inspector informed the licensee that the anomalies and deviations in the previous test had not been validated as having no significant affect on pump performance. Furthermore, the inspector informed the licensee that the flow indicator provided for fire pump testing was past the calibration due date. This (items 2.5.4.1 and 2.5.4.2) is considered an unresolved item (50-334/88-20-01; 50-412/88-12-01) pending further licensee action and Region I followup.

3.0. Safe Shutdown Capability

The inspector's review of the licensee's Abnormal Operating Procedure (AOP) No 2 (Control Room Inaccessibility), Operations Manual Chapter 56C (Alternate Shutdown From Outside The Control Room) and Operations Manual Chapter 56B (Pre-Fire Plan Strategies) was satisfactory. The inspector's interview with control room operators disclosed that the operators were extremely knowledgeable in the content of the procedures. The operators indicated that they receive operator initial and annual requalification training on the procedures in addition to simulating these actions during quarterly fire brigade drills.

No Violations or Deviations were identified.

4.0. Quality Assurance

The inspector's review of the licensee's Quality Assurance Audit Report No. BV-C-87-12, dated December 10, 1987 was satisfactory. The audit report identified 1 finding and 13 observations that were appropriately responded to by the licensee.

No Violations or Deviations were identified.

5.0. Plant Tours

The results of the inspector's observations made during plant tours of unit 1 and unit 2 are as follows:

5.1. Intake Structure

The inspector observed 7 - 55 gallon drums of fuel oil, 1 - 55 gallon drum of waste oil and 1 - 55 gallon drum of lube oil stored inside the intake structure as transient combustibles. Although the area in which these combustible materials were stored contained no safety related equipment, the inspector informed the licensee that the storage of the materials inside the intake structure appeared to represent a fire hazard that exceeded the fire resistive rating of fire area boundaries within the intake structure.

In response to the inspector's concern, the licensee indicated that the materials would be removed from within the intake structure as of May 13, 1988 and an evaluation would be performed to determine the fire affects that transient fire loads have on the fire area boundaries within the intake structure and if necessary, alternate methods for storing the materials will be implemented based on the evaluation results. This is considered an Unresolved Item (50-334/88-20-02; 50-412/88-12-02) pending further licensee action and Region 1 followup.

6.0 Unresolved Item

Unresolved items are matters about which more information is required in order to determine whether it is an acceptable item or a violation. Unresolved items identified during this inspection are discussed in Details, Paragraphs 2.0 and 5.0.

7.0 Exit Interview

Meetings were held with senior facility management periodically during the course of this inspection to discuss the inspection scope and findings. A summary of inspection findings was further discussed with the licensee at the conclusion of the report period on May 13, 1988.