U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report Nos.	92-17 92-15
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:	June 30 - August 3, 1992
Inspectors:	Lawrence W. Rossbach, Senior Resident Inspector Peter P. Sena, Resident Inspector

Approved by: John Rogge 8/24/92
John Rogge, Chief Date
Reactor Projects Section No. 4B

Inspection Summary

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

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EXECUTIVE SUMMARY

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Plant Operations

Overall, both units were operated safely and conservatively without any significant operational events. Proper safety perspective was displayed by operations management in the troubleshooting activities on power range nuclear instrument channel N44. The onsite response to an inadvertent turbine fire protection system actuation was well coordinated.

Radiological Controls

The inspector identified one instance where the licensee failed to submit an employee termination exposure report to the NRC. A thorough investigation by the licensee subsequently identified 11 additional cases. The failure to submit termination reports resulted in a non-cited violation. The licensee's corrective actions were timely and appropriate.

Maintenance and Surveillance

A positive effort to strengthen maintenance activities has been initiated by licensee management by increasing the job site supervision conducted by front-line supervisors. Good troubleshooting techniques were demonstrated during the maintenance activity on power range channel N44. Test equipment was connected to a wrong relay card due to human error during a surveillance activity. This was of minor safety significance as the bistables for the channel were already in a tripped condition.

Safety Assessment/Quality Verification

Updates to Chapter 2 in the Final Safety Analysis Report, "Site Characteristics," are not routinely performed. However, adequate precautionary measures have already been established as a result of initial analyses or concerns regarding the near-site storage of toxic chemicals or local transportation hazards.

DETAILS

1.0 SUMMARY OF FACILITY ACTIVITIES

Unit 1 operated at full power throughout this period until July 31 when power was reduced to decrease vibrations in the end turns of the main electrical generator and to accommodate lower system demand. This is discussed in more detail in Section 2.4. The unit was returned to full power on August 3 and was operating at full power at the end of this inspection period. Unit 1 is currently having a record run for the unit and had continuously operated for 249 days as of the end of this inspection period.

Unit 2 operated at full power through this inspection period except for a power reduction from July 16 to July 17 while the cause of blown fuses in one of four power range nuclear instrumentation channels was determined. This is discussed in more detail in Section 2.2.

2.0 PLANT OPERATIONS (71707)

2.1 Operational Safety Verification

Using applicable drawings and check-off lists, the inspectors independently verified safety system operability by performing control panel and field walkdowns of the following systems: recirculation spray and auxiliary feedwater. These systems were found properly aligned. 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 of the following plant areas:

- Control Room
- Auxiliary Buildings
- Switchgear Areas
- Access Control Points
- Protected Areas
- Spent Fuel Buildings
- 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 inspectors 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. Inspectors' 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 inspectors 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 inspectors conducted detailed walkdowns of accessible areas of both Unit 1 and Unit 2. Housekeeping at both units was good.

2.2 Unit 2 Power Reduction

On July 16, 1992, the licensee reduced power from 100% after declaring power range nuclear instrument channel N44 inoperable. This occurred following a surveillance activity on the power range drawer. Maintenance surveillance procedure (MSP) 2-02.06-I, "Power Range Neutron Flux Channel N44 Quarterly Calibration," was in progress when the 5 ampere control power fuses blew. The reactor protection system bistables associated with the power range instrument were already in a tripped condition due to the MSP in progress.

The licensee initiated troubleshooting activities to determine the cause of the fuse failures. This is discussed further in Section 4.2. At 3:45 p.m., the licensee declared N44 inoperable due to the control power fuse problem and entered Technical Specification 3.3.1.1 retroactive to the time the MSP commenced at 9:24 a.m. The inspector considered the licensee's decision to enter the technical specification action statement, starting with when the MSP began, to be conservative. Per the technical specification requirements, the inoperable channel must be placed in a tripped condition and the quadrant power tilt ratio (QPTR) must be determined every 12 hours using the incore movable detectors when one power range channel is inoperable and reactor power is greater than 75%. QPTR is an indication of the core radial power distribution and is normally determined by use of the excore detectors. While using the incore detectors to determine the QPTR, an infrequently performed evolution, invalid results were obtained. As the cause of the suspect QPTR information was not readily identifiable, the licensee met the technical specification requirements by reducing power to 74% by 9:20 p.m.

The blown control power fuses on power range channel N44 did not result in the loss of power indication for the channel; however, the channel trip functions fail safe in the trip condition. However, the licensee reduced power when the incore detectors produced invalid results eliminating the need for a QPTR. Setpoints for the remaining power range channels were not reduced below 85%. The licensee reduced power again from 74% to 49% due to a potential flux tilt induced by a xenon transient from the first power reduction. The technical specification QPTR limit of 1.02 is applicable only for power operations greater than 50%.

The cause of the unreliable incore QPTR data was later determined to be due to a transcription error when detector calibration factors from the reference full core flux map were input into the incore computer code. On July 17, the QPTR was verified within technical specification limits using the moveable incore detectors prior to increasing power above 50%. Power range channel N44 was also tested satisfactorily and returned to service prior to increasing power to 100%.

The inspector concluded that the licensee demonstrated the proper safety perspective during the problems associated with N44, however a final review of the licensee's corrective actions and the implementation of technical specification requirements remains under review. This item is identified as 50-412/92-15-01 "Review TS 3.3.1.1 Compliance Regarding N44 failure."

2.3 Unit 2 Turbine Generator Fire System Actuation

On July 17, 1992, at 9:43 a.m., an early warning heat actuation device (HAD) alarmed in the control room and an annunciator indicated actuation of the main turbine fire suppression system. A zone 3 trouble alarm indicated a carbon dioxide (CO_2) fire suppression system discharge into the enclosure between the low pressure turbine and the main generator. The inspector observed the licensee's response to the fire suppression system actuation from the control room.

The licensee's emergency squad, led by the Assistant Nuclear Shift Supervisor, responded to the scene in full fire fighting gear to assess the situation. Plant personnel were immediately informed of the CO_2 discharge via the page party system and were directed to evacuate the area. Control room operators monitored turbine parameters for indication of degradation due to a possible fire. Main turbine bearing lube oil and metal temperatures remained stable. The Nuclear Shift Supervisor (NSS) contacted the central alarm station within 2 minutes of the CO_2 discharge and requested the assistance of security personnel. Within 16 minutes of the discharge, security officers were in position to restrict access to the Unit 2 turbine building, cable vault, and service building. Additionally, area roll calls were performed via the security computer to determine if any personnel were accessed into the restricted areas. At 10:03 a.m., the emergency squad fire chief informed the control room that there was no evidence of fire. No offsite fire department response was requested or required. A fire watch was maintained by the licensee while the turbine CO_2 system was manually isolated. This event was not reportable and no adverse impact on plant operations was noted by the inspector. The licensee did, however, make a 10 CFR 50.72 notification due to the planned issuance of a press release.

The licensee's investigation determined that one of the two HADs within the turbine enclosure prematurely actuated at about 160° F. The normal setpoint for the HAD is 225° F. The cause of the setpoint drift has not been determined. The fire suppression system

responded properly to this HAD actuation. Zone 3 of the turbine fire suppression system was the only portion that discharged CO_2 in accordance with the system design. The licensee has installed new HADs in zone 3 and tested them to ensure proper setpoint accuracy.

The inspector concluded that the response by the emergency squad was timely and effective. The safety significance of the CO_2 discharge was quickly assessed by the emergency squad and was communicated to the control room in a concise manner. The NSS displayed excellent command and control of the control room activities. The rapid involvement of security personnel facilitated the response of the emergency squad. Overall, the integrated effort by licensee personnel in responding to a potential fire was well coordinated and indicative of an excellent onsite emergency response organization.

2.4 Unit 1 Power Reduction

Licensee monitoring of main electrical generator end turn vibrations showed that vibrations trended up during the inspection period to about 19 mils from about 12 mils. High end turn vibrations have occurred during previous operating cycles and were addressed by modifications to stiffen the end turns and add improved instrumentation to monitor their vibrations. The licensee also placed a limit of 20 mils on allowable end turn vibrations. This is the first cycle that the unit has operated with the current end turn vibration monitoring instrumentation; thus comparisons with previous cycles are not meaningful. Late in the inspection period, the licensee began to consider reducing power to 90% to observe the effect on reducing these vibrations. System operations requested a larger power reduction on July 31, however, due to lower demand for power. Operators reduced power to 58% on August 1 and returned to 100% on August 3. Vibrations returned to 14 mils on August 3 and began to trend upward again. At the end of this inspection period, the licensee was planning to reduce power to 90% for the remainder of the cycle due to continued low demand for power. This would also reduce end turn vibrations and extend the cycle to the start of the refueling outage planned to begin on April 3, 1993.

3.0 RADIOLOGICAL CONTROLS (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. Licensee personnel were observed to be properly implementing their radiological protection program.

3.1 Missing Exposure Termination Reports

Licensees are required to maintain records showing the radiation exposures, including bioassays, for all individuals for whom personnel monitoring is required. Licensees also must submit personnel monitoring reports to the NRC. The inspector performed a review of a sampling of individual exposure records and notification reports.

The exposure files reviewed by the inspector were found to be complete and properly maintained. One discrepancy was, however, identified by the inspector in that no termination report was found for one individual who terminated employment in 1989. 10 CFR 20.408(b) requires that when an individual terminates employment with a licensee, the licensee shall furnish to the NRC a report of the individual's exposures to radiation and radioactive material during the period of employment. The inspector brought this record discrepancy to the attention of health physics personnel who subsequently confirmed the failure to submit the required termination report.

The licensee initiated an investigation to determine why a termination report was never issued to the NRC and if any other record discrepancies existed. The Beaver Valley dosimetry organization receives, on a monthly basis, a Personnel Activity Report (PAR) prepared by the corporate human resources department. The PAR is a listing of employment terminations of individuals who are no longer monitored for radiation exposures. The names on the PARs are sequenced by termination date starting with January 1 of the specified year. On October 15, 1991, the licensee discovered that occasionally the name of a terminated individual would be added to the PAR under a previous month that was already reviewed by dosimetry personnel. Under these circumstances, the terminated individual would not be identified, and thus no termination report would be issued to the NRC. After this disclosure, the licensee directed dosimetry personnel to review the entire PAR listing, not just the section for the current month. However, the licensee failed to recognize that under these circumstances, termination reports may not have been issued for certain individuals prior to October 1991. Therefore, the licensee failed to recheck the PARs for the years prior to 1991. During the licensee's current investigation, PARs were re-reviewed from January 1986 to present. This review found that no termination exposure reports were issued to the NRC for an additional 11 Duquesne Light employees who terminated employment. The 12 total missing termination reports all involved employee terminations prior to 1991.

To correct these record deficiencies, termination exposure reports for the 12 individuals have been prepared and forwarded to the NRC. Additionally, the PAR has been revised such that employee terminations are listed by process date instead of termination date. In this manner, names are no longer backfitted into the PAR. The licensee is also in the process of reviewing exposure records and PARs from 1975 for all individuals employed.

The inspector concluded that the licensee conducted a thorough and extensive investigation to determine if exposure termination reports were missing for any additional ex-Duquesne Light Company employees. Although the licensee identified problems with the PAR review

methodology in October 1991, only subsequent PARs were reviewed in their entirety. The inspector concluded that the licensee did not demonstrate the foresight to review PARs prior to 1991, as this would have identified the missing exposure termination reports. The failure to submit termination reports of 12 individuals to the NRC is a violation of 10 CFR 20.408(b). However, this violation will not be cited because the violation was of minor safety significance, involved an isolated problem, and the licensee's efforts in identifying the 11 additional missing reports and implementing corrective actions were timely and extensive. Thus, the criteria specified in Section VII.B of the Enforcement Policy for exercising enforcement discretion were satisfied.

4.0 MAINTENANCE AND SURVEILLANCE (61726, 62703, 71707, 92701)

4.1 Maintenance Observations

The inspectors 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; 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 work requests (MWRs) reviewed included:

MWR 011453	FCV-FW-479 (Bypass Feedwater Regulating Valve A) Valve Positioner Preload Adjustment
MWR 011372	Emergency Diesel Generator No. 2 Cooling Water Immersion Heater Contactor Replacement
MWR 011479	Power Range Channel N44 Troubleshooting (see Section 4.2)
MWR 011173	Replace Tracking Driver Card for Non-Regenerative Heat Exchanger TCV-144
MWR 010486	Control Module Check for System 45D Heat Trace Panel PNLN1SG

During observation of the above maintenance activities, as well as during routine inspection tours, the inspector noted an increased presence of front-line maintenance supervisors in the field. These supervisors were providing oversight and guidance to the job site activities as well as checking on job status. In one case, supervisory oversight was specified as a prerequisite on the MWR (No. 011453) instructions. In this instance, the supervisory oversight helped to assure the completion of the maintenance without incident. The inspector discussed this observation with the maintenance manager and was informed that a directed

and concerted effort was underway to increase field supervision of maintenance activities. The inspector considered this to be a positive effort to improve the quality of maintenance as well as reduce the possibility of human error.

4.2 Power Range Channel N44 Troubleshooting

During the performance of MSP 2-02.06-I, "Power Range Neutron Flux Channel N44 Quarterly Calibration," the control power fuses for N44 blew. This subsequently resulted in a manual power reduction (see Section 2.2). The licensee's troubleshooting activities to determine the cause of the fuse failures were observed by the inspector.

The inspector noted an appropriate level of management oversight during the troubleshooting as well as proper vendor technical support. Testing by instrumentation and control personnel demonstrated that when energizing the power range drawer, a control power current spike would occur. The control power fuses are rated for 5 amps while the current spike was measured sometimes in excess of 25 amps for about 5 milliseconds. The same current characteristics were exhibited in a spare power range drawer. The vendor, Westinghouse Electric Company, subsequently informed the licensee that the original fuses, supplied by Bussman, underwent a design change such that the capability of the fuse to handle inrush current was lessened. The 5 amp rating was not changed. However, this change was made without Bussman changing the vendor part number. Therefore, fuses ordered by the licensee under the original part number resulted in the receipt and use of the redesigned fuses. Although Westinghouse was aware of this change, it was never communicated to the licensee. The licensee has subsequently installed new power range drawer control power fuses which provide for adequate inrush current capacity.

In conclusion, the licensee demonstrated good troubleshooting techniques to determine the cause of the fuse failures. Westinghouse's failure to communicate the change in fuse design information to the licensee did not afford the licensee an opportunity to change their purchase order part number. The use of the fuses under the changed design during power operations did not degrade the operability of the detectors, as the fuses were susceptible to failure only upon initial drawer energization.

4.3 Surveillance Observations

The inspectors witnessed and 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 operational surveillance tests (OSTs) and maintenance surveillance procedures (MSPs) and Beaver Valley tests (BVTs) were reviewed:

OST	1.1.10	Cold Shutdown Valve Exercise Test (FCV-FW-479)
OST	1.15.1	Reactor Plant Component Cooling Water Pump Quarterly Test (1CC-P-1A)
OST	1.24.4	Steam Turbine Driven Auxiliary Feed Pump Test (1FW-P-2)
MSP	21.23-I	P-485 Loop 2 Steamline Pressure Protection Channel III Calibration
OST	2.39.1C	Weekly Station Battery Surveillance
2BVT	1.33.5	Visual Inspection of Fire Rated Assemblies

During the performance of the weekly station battery surveillance, OST 2.39.1C, the inspector noted that battery voltage readings taken per procedure varied from -.07 to -.14 millivolts. The nuclear operator performing the surveillance recorded the most negative value in accordance with the note in the procedure. This resulted in a conservative calculated value for charging current. The inspector considered that this note provided useful guidance for the operator. This procedure, issue 1, revision 9, has not been through the procedure upgrade program, but still showed that good attention was evident in its development.

MSP 21.23-I removes the loop 2 steamline pressure protection channel III from service for calibration. During the performance of the surveillance, instrumentation and control (I & C) technicians inadvertently connected test equipment to relay card PS-MS475C. The MSP specified that the test equipment be connected to relay card PS-MS485C. This error resulted in a high steam pressure rate signal being generated for loop 1, channel III. A main steamline isolation (SLI) signal is generated by a steam pressure high rate of change on two of three channels in the same loop. Since the channel III bistables for high steam pressure rate were already in a tripped condition due to the MSP on loop 2, the loop 1 channel III high steam pressure rate signal did not result in a SLI signal.

The reactor operator contacted the I & C technicians following the annunciator alarm and the surveillance activity was stopped. The licensee conducted a critique and determined the cause of the incident to be human error. The I & C technician momentarily lost hand and eye contact with relay card PS-MS485C while picking up the test leads. The test leads were then subsequently inserted into the adjacent card, PS-MS475C. The licensee and inspector examined the relay rack and observed that both relay cards were properly labeled but separated by a distance of less than 1 inch. The channel I and II relay cards for main steam pressure are located in different relay racks, maintained under lock, and would not have been susceptible to inadvertent actuation during the performance of the MSP for channel III.

The inspector concluded that this incident was of minor safety significance as the channel III bistables were already in a tripped condition. The inspector agreed that human error was the cause and that the I & C technicians did not demonstrate proper self-checking techniques.

The I & C technicians were, however, extremely forthright and candid regarding their error which, in turn allowed the root cause to be readily identified.

4.4 (Closed) Notice of Violation (50-412/91-14-03)

The violation was issued to the licensee on July 29, 1991, for failing to establish and implement written procedures covering surveillance and test activities of certain safety related equipment. Specifically, surveillance procedures were not established for the alternate lube oil strainers and associated manual isolation valves for the Unit 2 emergency diesel generators (EDG).

The inspector reviewed the licensee's August 26, 1991, response to the violation as well as the revised surveillance procedures. The licensee has subsequently tested both EDGs with the lube oil flow aligned to the alternate strainer. The isolation valves have been stroked and all components functioned properly. To prevent recurrence, surveillance procedures have incorporated the testing requirements. The inspector concluded the licensee's actions in response to the violation were appropriate and properly demonstrated component operability. This violation is closed.

5.0 SECURITY (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. Licensee personnel were observed to be properly implementing and following the Physical Security Plan.

6.0 SAFETY ASSESSMENT AND QUALITY VERIFICATION (40500, 71707, 90712, 92700)

6.1 Review of Written Reports

The inspectors reviewed Licensee Event Reports (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 inspectors determined whether further information was required from the licensee, whether generic implications were

indicated, and whether the event warranted further onsite followup. The following LER was reviewed:

Unit 1:

92-06 "Unlocked High Radiation Area Door"

This was reviewed in inspection report 92-15/14. The inspector had no further questions regarding this event.

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

6.2 Licensee Evaluation of Surrounding Environs (TI2515/112)

Nuclear power plant licensees are required by 10 CFR 50.71(e) to submit an update to their Final Safety Analysis Report (FSAR) to the NRC on an annual basis. The FSAR is revised to include the effects of all changes made in the facility or procedures as described in the FSAR. The NRC is in the process of evaluating whether additional regulations may be necessary to assure that these periodic FSAR updates include the evaluation of public health and safety issues resulting from changes in population distribution or in industrial, military, or transportation hazards that could occur on or near reactor sites. In support of this staff evaluation, the inspector reviewed the procedures and processes associated with the licensee's FSAR update.

The inspector performed a review of the Unit 1 FSAR, Revision 9, and the Unit 2 FSAR, Revision 4. Chapter 2, "Site Characteristics," of both FSARs were found to contain differences in their description of major industrial facilities near the site. For example, the Unit 1 FSAR contains a description of two major steel mills: Crucible Steel Corporation, located 1.5 miles from the site, and the Jones and Laughlin Steel Corporation, located about 10 miles from the site. The FSAR indicates that these mills employ 6,000 and 12,000 people, respectively; however, they are no longer operating at these levels. The inspector found the Unit 2 FSAR to accurately identify and assess these changes in nearby industry, including the operation of the Bruce Mansfield Power Plant which employs about 1,000 people. The Unit 2 FSAR also accurately reflects the type and quantity of toxic materials stored at nearby industrial facilities within five miles of the site. A complete evaluation of toxic gas hazards for the Beaver Valley site has been performed and does apply to both units. A summary of this evaluation is contained the Unit 2 FSAR only.

NRC concerns regarding the storage of toxic chemicals at local industries were noted in the Unit 2 Safety Evaluation Report, NUREG 1057. Measures exist such that the control room can be effectively isolated when the licensee is notified of a significant spill or leak of toxic gas. The licensee has made formal arrangements with the Beaver County Police Department

to inform the control room of any toxic chemical releases which occur within five miles of the power station. Additional NRC concerns regarding damage to the service water intake structure from a gasoline/oil barge impact and explosion were previously identified during the Unit 2 construction permit review. The Unit 2 FSAR describes a Pennzoil barge facility directly across the Ohio River. The licensee was not cognizant of any changes in the barge traffic at this facility. However, the licensee had previously constructed an alternate intake structure to provide a backup supply of cooling water. Hence, changes in the shipment of hazardous cargo on the Ohio River are not reviewed by the licensee since acceptable precautionary measures have already been established as a result of previous analysis.

Changes in demographic data and trends are reviewed and evaluated by the licensee's emergency preparedness organization. The Emergency Preparedness Plan (EPP), Appendix B, "Demography and Evacuation Evaluation," contains updated general and transient population figures based on the 1990 census. The EPP is referenced per chapter 12.3 of both FSARs. The low population zone is designated as 3.6 miles in the EPP and FSARs. Population data and trends in the Unit 1 FSAR (Chapter 2) are based on 1980 census information while the Unit 2 FSAR contains 1980 census information. The licensee has no plans to update Chapter 2 population data with 1990 census information as it is already encompassed in the EPP. General population within 10 miles of the site has decreased by about 12,000 individuals between the 1980 and 1990 census. The licensee has evaluated the population shift along with the local transportation improvements and has concluded new evacuation time estimates need not be performed.

In conclusion, the inspector found the Unit 2 FSAR to more accurately incorporate the changes to the surrounding site environs than the Unit 1 FSAR. This is mainly due to the 5-year time difference in the original FSAR submittal for each unit. The licensee has appropriately reviewed and evaluated changes in demography. Changes in site proximately hazards (i.e., toxic chemicals and transportation hazards) have not been identified or reviewed by the licensee. However, the inspector found that adequate precautionary measures have already been established as a result of initial analyses or concerns.

7.0 EXIT MEETING

7.1 Preliminary Inspection Findings Exit

At periodic intervals during this inspection, meetings were held with senior plant management to discuss licensee activities and inspector areas of concern. Following conclusion of the report period, the resident inspector staff conducted an exit meeting on August 18, 1992, with Beaver Valley management summarizing inspection activity and findings for this period.

7.2 Attendance at Exit Meeting Conducted by Region-Based Inspectors

Dates	Subject	Inspection Report No.	Reporting Inspector
July 17	Fire Protection	92-16/11	A. Finkel

7.3 NRC Staff Activities

Inspections were conducted on both normal and backshift hours: 16 hours of direct inspection were conducted on backshift; 2 hours were conducted on deep backshift. The times of backshift hours were adjusted weekly to assure randomness.

R. Janati, Nuclear Engineer, Pennsylvania Department of Environmental Resources (DER), visited the site on July 13 and discussed inspection activities and the licensee's performance with the inspectors.

An inspection of site fire protection activities, a review of planned operator actions for alternate shutdown events, and a fact-finding review of installed Thermo-Lag insulation were performed by region based specialists from July 13 to July 17. Mr. N. Blumberg, Region 1 Section Chief, accompanied the specialists on July 15 to July 17 (NRC Inspection Report 50-334/92-16 and 412/92-11).