U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-334/82-04

Docket No. 50-334

License No. DPR-66 Priority -- Category C

Licensee: Duquesne Light Company

435 Sixth Avenue

Pittsburgh, Pennsylvania

Facility Name: Beaver Valley Power Station, Unit 1

Inspection At: Shippingport, Pennsylvania

Inspection Conducted: February 16-19, 1982

Inspectors: W.W. Kinney 3/9/82
W.W. Kinney, Team Leader, EPS, RI date signed

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|---|---|
| G.L. Snyder | Chief, EP&PSB, RI |
| D.A. Beckman | Senior Resident Inspector, RI |
| I. Cohen | Inspector, RI |
| W.J. Lazarus | Inspector, RI |
| J.L. Mathis | EPLB, HQ |
| R.H. Smith | Inspector, RI |
| W.M. Troskoski | Resident Inspector, RI |
| T.C. Earle | Battelle, HARC |
| C.D. Hooker | Battelle, PNL |
| M.L. Smith | Battelle, PNL |
| G. A. Walton | Senior Resident Inspector, RI |

Approved By: H.W. Crocker 3/11/82
H.W. Crocker, Chief, Emergency Preparedness Section, DEPOS date signed

SUMMARY

Inspection on February 16-18, 1982 (Report Number 50-334/82-04)

Areas Inspected: Special, announced emergency preparedness inspection and observation of the licensee's annual emergency exercise. The inspection involved 388 inspection-hours by a team of eleven NRC Region I, NRC Headquarters, and NRC contractor personnel.

Results: No items of noncompliance were identified.

## DETAILS

1. Persons Contacted

| | Normal Job Function/Title | Emergency Organization Job Function/Title |
|---|---|---|
| T.D. Jones | Manager, Nuclear Operations | Emergency/Recovery Manager |
| H.P. Williams | Station Superintendent | Emergency Director |
| R.M. Vento | Radiological Programs Coordinator | Environmental Assessment and Dose Projection Coordinator |
| L.G. Schad | Operations Supervisor | Operations Coordinator |
| J.A. Kosmal | Radiological Operations Coordinator | Radiological Control Coordinator |
| R.T. Zabowski | Technical Supervisor | Technical Support Coordinator |
| R.L. Hansen | Maintenance Supervisor | Maintenance Coordinator |
| W.J. Mercer | Procedures Engineer | Communications and Records Coordinator |
| J.A. Indovina | Instrumentation and Controls Supervisor | Operations Support Center Coordinator |
| J.J. Maracek | Senior Licensing Engineer | Assistant to Emergency/ Recovery Manager |
| F.G. Nelson | Nuclear Shift Supervisor | Initial Emergency Director |
| E.A. Schnell | Radcon Supervisor | Radiological Control Operations Center Coordinator |
| J.D. Sieber | Manager, Nuclear Safety and Licensing | Lead Exercise Controller |
| S.F. LaVie | Consultant, NUS Corporation | Control Room Controller |

The team also observed and interviewed other licensee emergency response personnel as they performed their emergency response functions.

2. Emergency Exercise

The Beaver Valley Power Station, Unit #1 emergency exercise was conducted on February 17, 1982, from 4:30 a.m. until approximately 4:00 p.m.

a. Pre-exercise Activities

The licensee coordinated the exercise scenario with the NRC and the various participating offsite agencies. The State of Ohio did not choose to participate in the exercise; however, Columbiana County of Ohio did participate in the exercise to a limited extent. The scenario included a large release of radioactivity to the environment which required emergency response by the counties and the three states within 10 miles of the facility. Also, the scenario included a fire which caused the response of an offsite fire fighting company. Finally, the scenario included the contaminated injury of an emergency worker which caused the response of a local ambulance service and the nearest hospital.

The licensee arranged with the NRC to conduct the site evacuation and personnel accounting portions of the exercise during a drill conducted on February 12, 1982. The three NRC Resident Inspectors who routinely inspect Beaver Valley Power Station, Unit 1 and Unit 2, observed these activities. These observations were incorporated with the other observations made during the exercise conducted on February 17, 1982.

On February 16, 1982, the NRC team attended the licensee's pre-exercise briefing of primary exercise participants in which the objectives and guidelines of the exercise were discussed. During this meeting, it was stated that offsite emergency response personnel, such as fire companies and ambulance personnel, would have to undergo the normal security site access controls during the exercise. Subsequently, arrangements were made with licensee Security to allow emergency-type access of these emergency response personnel and equipment to the facility during the exercise.

The NRC team also attended the licensee's pre-exercise briefing of the exercise observers and controllers, which was also held on February 16, 1982. During this meeting, the licensee discussed: the exercise objectives; an outline and a synopsis of the exercise scenario; the methodology to be used by exercise controllers and observers; guidelines to be followed by the observers; and assignments of the observers and controllers. The simulated parameter cue data to be used by the exercise controllers during the exercise were also received from the licensee at this briefing.

Based on the above findings, this portion of the licensee's exercise program appeared to be acceptable.

b. Exercise Observation

During the conduct of the licensee's exercise, eleven NRC team members made detailed observations of the activation and augmentation of the emergency organization; establishment of the emergency response facilities; and actions of the emergency response personnel during the operation of the emergency response facilities. The following activities were observed:

(1) detection, assessment, and classification of the emergency events provided in the exercise scenario;

(2) direction and coordination of the emergency response;

(3) notification of licensee personnel and offsite agencies of pertinent information;

(4) evacuation, assembly, and accounting for licensee personnel;

(5) assessment and projection of radiological (dose) data and consideration of protective actions;

(6) performance of offsite, onsite, and in-plant radiological surveys;

(7) performance of first aid and rescue;

(8) provision of in-plant radiation protection;

(9) maintenance of site security and access control;

(10) performance of technical support;

(11) performance of repair and corrective actions; and

(12) provision of information to the public.

The NRC team noted that the licensee's activation and augmentation of the emergency organization; establishment of the emergency response facilities; use of the emergency response facilities; and emergency response actions were generally consistent with their emergency response plan and implementing procedures. However, the team did find areas for licensee improvement which are discussed below. (The licensee also identified some of these areas in their critique of the exercise.)

With regard to the activity concerning the direction and coordination of the emergency response, it was noted that the Technical Support Center (TSC) personnel did not appear to provide one of the two TSC functions described in the Emergency Plan. The emergency

organization personnel in the TSC did not take the lead in formulating ideas and making proposals for corrective or mitigating actions and did not provide plant management control of the emergency. Instead, the Control Room personnel maintained the initiative in the development actions to control the emergency. Also, although TSC personnel did fulfill the second function of providing engineering support of the emergency response, the Control Room personnel provided most of the leadership in the engineering aspects of the emergency response. The licensee should assure that the Technical Support Center provides the plant management control and engineering support functions of the emergency response.

Also, with regard to the coordination of the emergency response, a coordination problem between the Operations group and the Environmental Assessment and Dose Projection group was noted. In order to remove heat from the reactor, the Operations group in the Control Room deliberately vented steam from the steam generators to the atmosphere in a controlled manner. Steam produced from the steam generator with leaking tubes was present in this vented steam. Therefore, the vented steam contained radioactive contaminants from the reactor coolant water. The Environmental Assessment and Dose Projection group was not informed about this release of radioactivity to the atmosphere. They should have been made aware of this, so that they could have used this information and associated data in their radiological dose projections.

Also, in the area of coordination of the emergency response, it was noted that the data and information listed on the Systems Status Boards and Time-Event Status Logs, located in both the Technical Support Center and the Near-Site Emergency Operations Facility, were not in agreement. This data and information was used in formulating corrective actions. The licensee should assure that data and information are correct and in agreement at locations where emergency managers are present.

With regard to annaouncements during the drill conducted on February 12, 1982, the observer at Unit 2 was not able to understand the instructions concerning the evacuation given over the public address system. The volume was low and the instructions were garbled with other messages given over the system. Also, the intended participants in the drill at Unit 2 were not able to hear the instructions well enough to participate. During the exercise conducted on February 17, 1982, an observer at the 767 foot level in the Primary Auxiliary Building was not able to hear the announcement over the public address system which concerned the exercise's contaminated injured person. The public address system, which is called the Page Party System, is used to sound the emergency alarms and to provide pertinent emergency instructions to employees and visitors onsite. The licensee must improve the emergency notification system and assure that all personnel in

all location of the Beaver Valley Power Station can be adequately notified and properly instructed during any emergency.

With regard to the assessment and projection of radiological (dose) data and consideration of protective actions, it was observed that extremely conservative assumptions were used in the radiological dose assessments. It was further noted that the licensee and the Pennsylvania Bureau of Radiation Protection were not using a common dose projection method. The licensee should review the assumptions used in dose projections to assure that the assumptions are not overly conservative. Also, the licensee should work with Pennsylvania Department of Environmental Resources/Bureau of Radiation Protection to assure that they are using either a common scheme or compatible schemes for dose projection which considers the topography and meteorological conditions.

With regard to providing of information to the public, it was noted that there was lack of coordination between the license and the three states on the press releases. The licensee should spend additional effort in achieving coordination with the states to assure that correct nonconflicting information may be provided to the public during an emergency.

c. Exercise Critique

The NRC teams attended the licensee's post-exercise critique on February 18, 1982. Most of the 3 controllers, 9 controller/observers, and 11 observers individually presented their observations concerning the exercise. Many pertinent observations were made during this critique. About half of the improvement areas discussed in the foregoing section of this report were discussed. The licensee indicated that the observations would be evaluated. The licensee also stated that an exercise critique report documenting the significant deficiencies will be issued and recommended corrective actions will be developed and implemented.

The NRC team compared their findings with those of the licensee and determined that neither the licensee nor the NRC observers had identified items which exhibited a potential for a degraded emergency response. However, areas for improvement were identified. Discussions during the critique indicated that licensee management possessed sufficient understanding of these areas to permit timely and effective improvements.

Based on the findings in the above area, the NRC team determined that the licensee had performed a critique of the emergency exercise in accordance with their Emergency Prepardness Plan.

3. Exit Meeting and NRC Critique

Following the licensee's self-critique, the NRC team met with the licensee representatives listed in Section 1. The team leader summarized the purpose and scope of the NRC inspection. The team leader also informed the licensee that their performance during the exercise demonstrated that they could implement their Emergency Preparedness Plan and Emergency Preparedness Plan Implementing Procedures in a manner which would adequately provide for the health and safety of the public. However, there were areas where improvements should be made, and those areas including those previously discussed in section 2.b. were discussed.

Licensee management acknowledged the findings and indicated that evaluation and resolution of the identified improvement areas would begin immediately.