

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-412/87-14

Docket No. 50-412

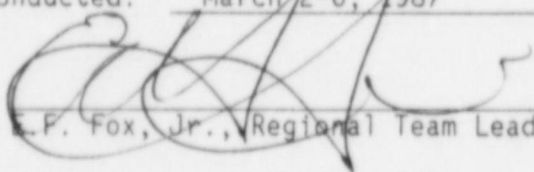
License No. CPPR-105 Priority - Category B-1

Licensee: Duquesne Light Company
Post Office Box 4
Shippingport, Pennsylvania 15077

Facility Name: Beaver Valley Power Station

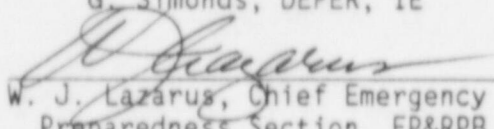
Inspection At: Shippingport, Pennsylvania 15077

Inspection Conducted: March 2-6, 1987

Inspectors: 
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4/27/87
Date

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Approved by: 
W. J. Lazarus, Chief Emergency
Preparedness Section, EP&RPB

4/28/87
Date

Inspection Summary: Emergency Preparedness Implementation Appraisal conducted on March 2-6, 1987 (Report No. 50-412/87-14)

Areas Inspected: Emergency Preparedness Implementation Appraisal (EPIA) to evaluate the adequacy and effectiveness of the emergency preparedness program for Beaver Valley Unit-2 including administration, organization, procedures, training, and facilities and equipment.

Results: No violations were identified. Several program areas were identified which are incomplete or require corrective action. These are listed as open items and will need to be addressed by the licensee and reinspected in a subsequent inspection. Section 4 of this report provides a summary listing of these items along with the determination of whether the item is required to be corrected prior to issuance of the low-power license or the full-power license.

DETAILS

1.0 Persons Contacted

- *T. Dodson, Records Management Administration
- A. Fenwick, Director Records
- *P. Gangwisch, Operations and Maintenance Instructor
- *D. Girdwood, Director Radiation Operations
- *J. Godleski, SNR Test Engineer
- H. Harper, Director Security
- *D. Hunkele, Director QA Operations
- *J. Kosmal, Manager Radiological Controls
- *W. Lacey, Plant Manager
- S. LaVie, SNR HP Specialist
- V. Linderbom, Director Plant Chemistry
- *A. Lambardo, Nuclear Chemical Specialist
- *W. Mahan, Senior Planner
- *A. Morabito, Manager Nuclear Training
- *R. Martin, Manager Regulatory Affairs
- *G. McKee, Emergency Planning Specialist
- F. Nelson, Nuclear Shift Supervisor (NSS)
- *F. Pavlechko, Director, Emergency Preparedness Program
- C. O'Neil, Procedures Engineer
- J. Sasala, Director Nuclear Communication
- *T. Sieber, Vice President Nuclear Operation
- *R. Schuster, Nuclear Station Operations Supervisor, BV-2
- T. Sloan, Computer Specialist
- *G. Sovick, SNR Licensing Supervisor
- G. Storolis, NSS
- *H. Szklinski, HP Specialist
- *B. Tuite, Nuclear Shift Operations Foreman
- J. Vassello, NSS
- *R. Vento, Director, Rad. Engineering
- M. Wahlen Mayer, NSS
- *D. Weitz, SNR HP Specialist
- *T. Zoglmann, SNR Project Engineer

The inspectors also interviewed and observed the actions of other licensee employees.

*Denotes those present at exit interview.

2.0 Scope of Appraisal

The purposes of this appraisal were to determine the emergency preparedness readiness of Beaver Valley Power Station Unit-2, to evaluate the overall adequacy and effectiveness of licensee onsite emergency preparedness, and to identify areas of weakness that need to be addressed prior to licensing. The principal criteria for this appraisal are contained in IE Inspection Procedure TI 2515/55, NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", 10 CFR 50.47 and 10 CFR 50, Appendix E. The appraisal addressed administration, emergency organization, emergency preparedness training, emergency response facilities and equipment, implementing procedures, and coordination with offsite groups.

3.0 Inspection Details

A. Administration and Organization of The Emergency Plan

The inspectors reviewed the Table of Organization and Section 8 of the Emergency Preparedness Plan and held discussions with licensee management and determined that the administration and organization of the emergency plan is adequate. The licensee's emergency organization is part of the Nuclear Group and the Director of Emergency Preparedness reports to the Vice President, Nuclear through the Director of Training. Provisions are in place for centralized administration of the program and for upper level management control of it. The inspectors determined through review of current job descriptions that emergency responsibilities were appropriately assigned and that the persons assigned these responsibilities had been given the necessary authority to carry out such responsibility. The Director, Emergency Preparedness (EP), receives upper management support for the program. This was confirmed through an interview with the Vice President, Nuclear who stated he actively supports emergency preparedness activities. Public information brochures distributed by the licensee also highlight upper management support. Contact and coordination is maintained between the emergency preparedness staff, site personnel, and site organizations such as the Onsite Safety Committee (OSC) and other appropriate organizations both offsite and at the corporate level. A high degree of coordination with various off site organizations, local, county and state governments, local news media, and the general public is maintained by the emergency preparedness staff. A strong emphasis has been placed on keeping these sectors informed and appraised of emergency preparedness at the site as evidenced by the number of information classes offered and presented by the Emergency Preparedness personnel and by the Vice President, Nuclear.

B. Emergency Organization

The inspectors reviewed the licensee's emergency response organization as identified in a draft copy of Section 5, Rev. 8, Issue 1 of the Emergency Plan to determine that definition of authority, responsibility, and duties of key responders assigned to the organization are described. The inspectors also reviewed the Corporate Communications' Department's "Emergency Public Information Plan, BVPS" which identifies personnel assignments for individuals involved in public information activities. Changes to emergency organization affecting Unit 2 were discussed with the licensee's EP staff.

Three basic phases of emergency organization exist based upon emergency classification. Initially, the on-shift organization is comprised of an Emergency Director (Shift Supervisor), Communications and Records Coordinator (Administrative Assistant), Technical Support Coordinator (STA), Operations Coordinator (Shift Foreman), Radiological Control Coordinator (Radcon technician), and Security Coordinator (Security Supervisor). Figure 5.3 of the Emergency Plan describes the organization chart for the primary emergency (control room) organization and the exact arrangement to be used for Unit 2. When an Alert condition is declared, the second phase of organization takes effect. At this level, the Technical Support Center (TSC), Operations Support Center (OSC), Radiological Operations Center (ROC), News Center, and the Environmental Assessment and Dose Projection (EA & DP) function become activated. The key functional areas and the major tasks within each functional area are adequately described for individual response positions in Section 5.2 of the Emergency Plan. Managerial positions and the responsibilities which may be carried out are also listed and further detailed in the Emergency Plan Implementation Procedures (EPIP).

An Emergency Organization Call List is maintained by the EP staff which identifies individual members of the emergency organization for the Control Room, TSC, and EOF, in addition to functional areas for each emergency facility. Information identified on the list includes name, routine job title, work telephone number, home telephone number, and emergency training completion dates. The list is updated bi-monthly and is adequate to track the status of qualified personnel within the emergency organization.

Basic changes in emergency staff relate to the addition of operations (control room) personnel, radiation health technicians, and maintenance personnel to support the additional workload of Unit 2. One minor change to the Emergency Plan was the addition of a Computer Coordinator to help with operation of the Plant Variable Computer and Safety Parameter Display System (SPDS). Operations personnel are identified on the organization call list as assigned to Unit 1 or Unit 2.

Based on the above, the Administration and Organization portion of the licensee's emergency preparedness program is acceptable.

C. Training Program

(1) Emergency Plan Training Program Establishment and Implementation

The inspectors reviewed the training program records and lesson plans, and interviewed licensee staff. It was determined that training of on-site emergency response organization personnel is the responsibility of the Nuclear Group Training Section. This section also provides training for operations personnel and General Employee Training. Emergency response training is managed by the Director for Technical and Crafts Training. Two qualified instructors are assigned full time to this activity. Twenty five courses have been developed which include classroom instruction and required reading, table-top exercises, and student participation in annual drills and exercises. Instruction has been developed in accordance with Institute of Nuclear Power Operations (INPO) guidelines. Unit 2 specific lesson plans are under development but have not been completed (50-412/87-14-01). Emergency Directors, Senior Reactor Operator candidates, and Emergency/Recovery Managers receive an average of 20 hours of emergency preparedness instruction. Course content includes recognizing and classifying emergency conditions, notifications, use of communication equipment and procedures, projected dose assessment, Protective Action Recommendation (PAR) format, and recovery. It was noted that a table top exercise (Course 9251) associated with this course is not mandatory. This issue is discussed in (2) below.

Courses are given quarterly and scheduled on an individual basis. Retraining is required to maintain emergency response qualification and this training must be completed every 12 months. A review of training records indicates that with one exception, emergency positions are currently filled with qualified personnel. At least three personnel are qualified for each key emergency response organization position. However, since 1985 there have been no qualified Shift Technical Assistants (STA) to carry out emergency planning duties. The licensee recognized this problem and has scheduled STA training to begin March 20, 1987. This training is expected to be completed by July 1, 1987. (50-412/87-14-02)

Off-site training is the responsibility of the emergency preparedness program staff. Almost 3000 offsite individuals from 250 entities have received such training. Included are municipalities, counties, police, fire and rescue squads, public and private schools, bus drivers, emergency broadcasters, the American Red Cross, nursing home staffs, special care facilities, State personnel, and State Police.

(2) Control Room Walk-Through Observation

The inspectors requested that the licensee formulate four (4) control room operating shifts to participate in the walk-throughs. The licensee presented crews consisting of a shift supervisor, an administrative assistant (for notifications) and a Rad Control Technician (for dose projections) and stated that these individuals could provide all immediate and necessary response actions of a full on shift compliment and could be evaluated as if they were full strength crews. Three generic, 3 loop Westinghouse accident scenarios were provided by the inspectors, and presented in written form to each of the 4 shifts interviewed. Each shift crew was given the same scenario to permit comparison of results. Performance was measured with respect to the Emergency Plan, Implementing Procedures, and NRC requirements or guidance. At the time of the appraisal, Unit 2 operations personnel had not been assigned to specific shift crews. Although one group (19 individuals) had completed NRC licensing examinations and a second group was scheduled for the exam, no personnel were licensed on Unit 2.

A weakness was identified during walk-throughs of the initial response organization. Difficulty was encountered by operations staff using Emergency Action Levels (EAL) Tables and in classifying emergencies. Only one of the operators involved had taken the "Table Top Discussions" and "Emergency Director Training" courses. The inspectors reviewed this course and concluded that emergency classification material should be enhanced and examination questions of a practical and applied nature be developed. This was discussed with the licensee and the licensee agreed to consider this course be included as a required course in future training. (50-412/87-14-03)

During the walk-throughs, a summary of identified weaknesses were:

- ° Emergency classification accuracy and time to evaluate Emergency Action Levels to properly classify the emergency were both severely hampered by the lack of basic human factors consideration in the procedures.
- ° All shifts were able to classify an Anticipated Transient Without Scram (ATWS) correctly but none of the crews could locate a written definition of ATWS nor did any individual provide a satisfactory definition based upon experience or training.

- Significant classification differences were found between shifts which used the same procedure and were provided with the same scenario situations in classifying ATWS, tube leaks with stuck open secondary code safety valves, and fires, an indication of inadequate training in these areas. Shift members indicated that the EP training program for Emergency Directors did not require any accident classifications.
- None of the Administrative Assistants (AA) involved in the walk-throughs had completed emergency plan communicator training.
- Two of the four shifts failed to accomplish State and local notification within 15 minutes. Time was measured from classification of the event to the time the shift supervisor completed forms and presented them to the AA and did not include time required to deliver the message to offsite entities. One cause of the delay was the perceived need by the shift to make a dose assessment prior to notification.

Dose assessment walk-throughs were also conducted in conjunction with operator walk-throughs. Each of the 4 shifts were presented with the same dose projection problem. Shift crews were free to select the method of assessment (MIDAS or backup-hand calculation) for dose calculations. All shifts chose the hand calculation method utilizing the FSAR Accident Dose Projection Worksheet.

Results from two shifts compared favorably when compared to each other and to IRDAM. However, portions of the results of the other two shifts differ significantly when compared to other crew results and to IRDAM. The inspectors determined that two of four shifts completed the problem correctly while the other two shifts each failed in about half of the dose assessment problem components. This appears to be a training deficiency and must be corrected prior to full-power licensing. (50-412/87-14-04)

D. Facilities and Equipment

(1) Control Room

The inspectors toured the Unit 2 Control Room which was under construction. Projected completion and turn over of the Unit 2 Control Room is scheduled for the end of April 1987. The Unit 2 Control Room is adjacent to and approximately the same size of the Unit 1 Control Room. The Unit 2 Control Room will share the Unit 1 Control Room habitability envelope.

The licensee stated that the Unit 2 Control Room would contain instrumentation to detect, measure and display radiation levels, airborne contamination, and plant process system parameters. Emergency communications equipment is available for notification of offsite authorities and the NRC in the Shift Technical Supervisor's office of the Unit 1 Control Room. At the time of the inspection a wall existed between the Unit 1 and Unit 2 Shift Technical Supervisor's offices. This wall will be removed prior to operating license thereby allowing sharing of this equipment for Unit 2 Control Room.

Floor plan designs for the installation of communications equipment in the Unit 2 Control Room and the Shift Supervisor office were reviewed and once installed will be adequate. However, the dedicated line telephone system was not operable between the Unit 2 Control Room, TSC, and EOF. (50-412/87-14-05). This system is in place for Unit 1 and is powered from the uninterruptible power supply. A base station for the DLC Industrial Radio System is also provided. This base station has its own transmitter and antenna and can communicate (via the BVPS repeater) with all DLC units. An extension to the NRC/ENS red phone is at the TSC as well as PAX and Bell system telephones. All Control Room personnel assigned are required to be respirator qualified. Respiratory protection equipment was not yet in place for use by control room personnel inside the control room. Protective clothing for fire brigade members was also not in place for use by assigned Control Room personnel. (50-412/87-14-06). Further, the licensee stated that updated copies of the Emergency Plan and Implementing Procedures would be placed in the control room and added to the controlled copy listing. (50-412/87-14-07)

(2) Technical Support Center (TSC)

The inspectors evaluated the licensee TSC to verify that the facility meets the requirements/guidance of NUREG-0654, NUREG-0696, NUREG-0737 Supp 1, and 10 CFR 50 Appendix E concerning accessibility to the control room, habitability, work space, availability of reference material, communications, data systems, and miscellaneous support equipment. The TSC and its operation are described in Section 7.1.2 and 7.1.5 of the Emergency Preparedness Plan and EPP/IP 1.4, "Technical Support Center Activation, Operation, and Deactivation."

The TSC is located in the Emergency Response Facility (ERF). This area of the ERF is sized to accommodate at least 30 persons comprised of plant technical staff and NRC personnel. There is sufficient desk space for approximately 25 people and adequate work space to accommodate full size engineering drawings. Engineering drawings would be available from the ERF Records Room which currently contains all the drawings for Unit 1. The licensee stated that as-built drawings for Unit 2 will be placed in the ERF records room upon completion of construction (50-412/87-14-08).

The inspectors determined, with the assistance of Security, that the transit time from the TSC (at the ERF) to the Control Room was slightly in excess of two minutes. However, this two minute requirement was instituted to insure that information from the Control Room that wasn't available in the TSC could be quickly obtained. As the TSC has direct access to all significant parameters this is not a concern.

Parameter display of real-time plant status data for both Units will be through the terminals to the plant variable computer and the safety parameter display system (SPDS) computer. These systems will have video display and hardcopy printers for both units. It appears the TSC will have adequate capability for Unit 2 upon completion of installation and acceptance testing of the SPDS, projected for end of April 1987 (50-412/87-14-09).

(3) Operations Support Center (OSC) and the Emergency Operations Facility (EOF)

The inspectors noted that the OSC and EOF are common to both Unit 1 and Unit 2. These emergency facilities had previously been found to be acceptable for carrying out emergency response activities.

(4) Assembly Areas

The inspectors verified that the designated assembly/reassembly areas are located as described in the Emergency Plan and EPIP 3.1. The inspectors toured these areas to determine if they were marked, equipped and had adequate space. It was determined that there are three types of assembly areas: 1) areas common to both units; 2) areas for Unit 2 within the site boundary; and 3) areas near but outside the site boundary. The two areas common to both units are functional (Administration Building and what will become the Alternate Access Facility). Two areas designated for Unit 2 and inside the protected area are the third floor locker room and fourth floor south office shop room. These two areas are partially equipped; card readers and the computer for personnel accountability are installed but the software is not yet functional. (50-412/87-14-10)

Another area to be used for Unit 2 will be located within the exterior of the first floor of the Engineering Building (currently the Stone & Webster engineering building). This area was not marked or equipped as an assembly area (50-412/87-14-11).

Two remote assembly areas are Kennedy Corner and the Grange Building in Hookstown. Equipment will not be stored at these facilities but will be brought from the site when needed. Initially keys for these facilities could not be found and when found the key for Kennedy Corner was the wrong one. Access to appropriate keys to offsite assembly areas should be ensured (50-412/87-14-12). This facility consists of two trailers connected by an enclosed area. In that there are no sanitary facilities and minimal communication capability exists, this facility is presently not acceptable. The licensee advised the inspectors that the Kennedy Corner facility would be relocated to the Duquesne Western District Office. (50-412/87-14-13)

The facility located at Grange is adequate as a remote assembly area. Although the Grange is fenced with a locked gate there are no key surveillance or remote assembly area security procedures. Adequacy of decontamination procedures could not be determined since procedures and equipment were unavailable. The inspectors advised the licensee on the need to demonstrate decontamination at the Remote Assembly Areas. (50-412/87-14-14)

(5) Emergency Kits and Emergency Survey Instrumentation

The inspectors toured the licensee's Control Room, Technical Support Center (TSC), Operations Support Center (OSC), Emergency Operations Facility (EOF), and the assembly/reassembly areas in order to evaluate the adequacy of the emergency equipment stored in each facility.

At certain facilities plastic seals are placed on kit lockers to provide tamper indication between inventories. The inspectors inventoried kits and storage conditions and determined that the kits at these locations contained sufficient supplies and procedures for emergency teams and that storage conditions were adequate.

Periodic inventories required by EPP 7.1 of the Emergency Plan, were checked to verify that they had been completed as required. Based on the review of randomly selected inventory records, this area was found to be acceptable.

It was determined that kits to be used for reentry contained sufficient quantities of extremity TLD's and high range direct reading dosimeters. Beta-gamma and ion chamber instruments capable of measuring whole body dose rates either in plant or in a plume were also present. Instrumentation examined was found to be operable and in calibration.

It was determined that environmental equipment and procedures which would enable the licensee to detect radioiodine and radioactive particulate materials, Cs-137 equivalent, at concentrations of at least E-07 $\mu\text{ci/cc}$ and E-09 $\mu\text{ci/cc}$ respectively were present. During the tour of the inplant emergency kits it was noted that two air sampler kits for Unit 2, were located on the turbine deck for Unit 1. The Unit 2 kits were locked within the Unit 1 air sampler kit storage area until the Unit 2 storage area could be built. (50-412/87-14-15)

The inspectors verified that emergency kits included an adequate quantity of respirators. Respirators examined appeared to be well maintained and ready for use. Kits also contained adequate quantities of protective clothing. Additional protective clothing could be obtained from the station warehouse. Also, respiratory protective equipment can be obtained from a local distributor and additional protective clothing could be obtained from area nuclear power stations.

A review of the available emergency survey instrumentation revealed a list of equipment entitled "Radiological Control Department, EPP Punch List, Open Items", that is needed for the emergency preparedness program. This equipment has not yet been received. (50-412/87-14-16)

(6) Damage Control Kits

Damage control kits were checked for proper equipment and storage considerations. It was determined that the licensee has maintenance equipment and supplies on-site or immediately available to support all except the most unusual damage control problems. Unusually heavy demand for equipment, supplies, and/or personnel can be met with trained craftsmen within the corporate work force.

Based on these findings, this portion of the licensee's program is acceptable.

(7) Area and Process Radiation Monitors

The Digital Radiation Monitoring Systems (DRMS), composed of approximately 35 area monitoring channels and 62 process monitoring channels, is to be installed to provide specific information on radiation levels at designated locations throughout Unit 2. DRMS read-outs are located at the operators console and the programmers console in the Control Room and in the Health Physics office area.

The DRMS is designed to detect, measure, display, and store radiation levels in the process and ventilation pathways and to detect radiological release rates from effluent monitors. The system has been partially installed, is not yet operational, and has not been turned over to the licensee (50-412/87-14-17). Displays associated with area and process radiation monitors and non-process monitors will provide designated monitor locations on each floor plan, actual radiation reading or level, trip points, level alarms for water, temperature, pressure, and flows, detector efficiency (including conversion factors), time averaged trending levels, calibration dates, background checks, purge time, status of internal check source, equipment failure alarms, and specialized activities associated with each monitor.

Though the majority of system hardware components are in place, some components such as the containment high range monitors are not yet installed. Additionally, the portions of the system that are in place have not been calibrated at the time of this inspection. Schedule for calibration and source testing has been developed, however the procedure for calibration of instruments and monitors, as well as a schedule for calibration is in draft form. (50-412/87-14-18)

Some of the detectors discussed above are installed with regard to their limitation of range, operating temperature, and humidity. However, the certification of the operating conditions for the detectors by the manufacturer is not complete but was in progress during this inspection (50-412/87-14-19).

Monitors for Unit 2 DRMS are easily available to Control Room and health physics personnel. Inplant monitors are not shared by Units 1 and 2, minimizing the time needed by Control Room personnel to access DRMS data. Safety-related detector channels are on vital power. These channels are fed into a pair of redundant RM-11 computers. The computers are on separate power supplies.

The maintenance, preliminary calibration checks, monitor repair and replacement, is on-going. Training of additional station personnel for the overview inspection, and repair of DRMS was incomplete at the time of this inspection. (50-412/87-14-20)

(8) Non-Radiation Process Monitors (NRPM)

The inspector reviewed the Emergency Preparedness Plan and implementing procedures and chose approximately 49 Non-Radiation Process Monitors (NRPM) for review. Although portions of each monitoring channel had been installed, few were operational. All monitoring channels chosen for review are planned to have readouts in the Unit 2 Control Room, but could not be inspected since the control room was still under construction. Installation of NRPM readouts in the Unit 2 control room should be completed (50-412/87-14-21).

(9) Meteorological Instrumentation

Both Unit 1 and Unit 2 will use the Meteorological Information Dose Assessment System (MIDAS) and share the Unit 1 meteorological tower. The MIDAS system in use for Unit 1 is an adequate system that is fully operational. MIDAS terminals are located in the TSC, Alternate TSC, EOF, Radiological Operations Center and the Unit 1 Control Room.

Although there will be no additional terminal for Unit 2, the Unit 1 terminal will be shared between the two Control Rooms once access is provided as described in (1) above.

Based on these findings, this portion of the licensee's program is acceptable.

(10) Emergency Communication Equipment

The inspectors reviewed Section 6 of the Emergency Plan and determined that specified equipment is adequate for notifying and instructing the public. Section 7.6 of the Emergency Plan outlines all generic communications equipment on site and at the ERF. At the time of this inspection, IP 1.2, "Communications", and Ref. 1.2.1 to Section 7 were not available. It was determined that alarms, which include standby and evacuation alarms, have not been tested and are not operational at present. These systems have not been turned over to the licensee as of the date of this inspection. A projected completion date was requested from the licensee. (50-412/87-14-22)

The inspectors verified that records of communication drills were complete and that all necessary checks had been made and recorded. The inspectors also verified that there is 24-hour capability to notify the NRC, State, and local authorities from the Control Room (Unit 1), which is to be shared by Unit 2 Control Room. It was determined that dedicated hotline telephones to offsite authorities are backed-up by a radio system, and that backup power supply is available.

Although no specific communication procedure is in place for Unit 2, a generic procedure 1.2 (June 26, 1986) describes the back up system and Section 7.6 of the emergency plan outlines backup communications equipment.

(11) Reserve Emergency Supplies and Equipment

The inspector reviewed Section 7.1.6 of the Emergency Plan and determined that the equipment designated as emergency equipment is specified, and the storage location of supplies in kits or cabinets is listed. It was determined that DLC maintains an inventory of contamination control materials at Aliquippa Hospital and the Medical Center of Beaver County. It was specified that emergency kits and cabinets are to be inspected and inventoried at least quarterly and after every use, including drills and exercises.

Aid to affected persons is described in Section 6.8 of the Emergency Plan. Although physicians and nurses are not employed and stationed on or near site, at least two persons trained in Red Cross Multi-Media are on site at all times. Arrangements for medical transport and hospital treatment have been established and training provided. The inspectors examined the Aliquippa Hospital Morgue and found that it was adequately equipped for decontamination of station personnel.

Section 7.1.6 Emergency Plan specifies that the Manager, Radiological Controls is responsible for ensuring that the emergency equipment and supplies are inventoried and maintained and that personnel are assigned to perform these activities.

The inspectors verified by reviewing records that inventories had been conducted quarterly and after every drill and exercise and that supplies and equipment were on hand to support emergency usages for approximately 10 days to 2 weeks.

Additional supplies can be requested through INPO support. Since the licensee uses equipment that is common throughout the industry, no additional training would be required to use the additional equipment.

Based on the above review, this portion of the licensee's program is acceptable.

(12) Emergency News Center (ENC)

The inspector toured the ENC and the portion of the EOF set aside for press releases and determined that space (room A) is available for approximately 20 news media representatives for briefings and conferences. The ENC is located in the Western division headquarters, Aliquippa, Pennsylvania. It was determined that this facility provides adequate work space for the press and for Duquesne Light Corporate Communications personnel. It contains a briefing area which can accommodate 300 persons and has adequate parking area for cars and trailers and a helicopter landing pad. The ENC will serve as the focal point for all corporate communications activities for the licensee. All other media communications made by the licensee including press conferences will be coordinated through the ENC.

The corporate communications plan is incorporated as an Emergency Plan Implementing Procedure (EPP/IP 9.1) and provides procedures for activation and operation of the ENS. It was determined that the ENS contains provisions for telephone service, electrical service for added television loads, copying and telefaxing service, public address system capability, audio/visual equipment capability, and security.

It was also determined that if the Western headquarters facility becomes uninhabitable due to radiological conditions, the activities of the ENS will be transferred to the Duquesne Light Corporation Corporate Headquarters in Pittsburgh, Pennsylvania. With the addition of Unit 2, no changes in implementation of the Corporate Communication Plan or media and news center facilities are expected.

Based on the above, this portion of the licensee's program appears adequate.

(13) In-Plant Radiological Surveys

The inspectors reviewed EPP/IP 2.1, Emergency Radiological Monitoring, to determine the adequacy of the methods and equipment which are to be used to perform emergency radiological surveys. EPP/IP 2.1, dated March 18, 1987, instructs personnel that except where specifically identified, radiological surveys and laboratory analysis will be performed in accordance with existing radcon and chemistry procedures. EPP/IP 2.1 provides guidance and instructions to TSC/EOF personnel for the direction and coordination of emergency radiological surveys.

EPP/IP 2.2, Onsite Monitoring For Airborne Release, provides instructions to monitoring team personnel for performing onsite radiological monitoring in the event of an airborne release of radioactive material. This procedure instructs monitoring team personnel to obtain appropriate monitoring equipment from the monitoring team kits and to perform operability checks on the equipment before leaving the control room or the controlled area hallway. Instrument use/check procedures are contained in the emergency kits.

Procedures and instructions are written from the viewpoint of the persons responsible for performing the radiological surveys. Adequate means are contained in the procedure for recording the date, time, and location of each survey, the name of the individual performing the survey, the instrumentation type and serial number used, whether open window or closed window readings were performed, the duration of a reading, the air sample flow rate and the background radiation levels at the time of air sample counting.

The Attachments to EPP/IP 2.1 and 2.2 are inadequately labeled and no provisions are given for uniquely labeling each collected sample for later identification and possible subsequent counting for verification of counting results. Means are specified for providing collected data, including original data sheets, to the Environmental Assessment Coordinator or the Dose Projection Coordinator. However, a central collection point has not been designated for all onsite samples collected by the survey teams.

Communications during onsite survey team activities are specified in procedures. Hi-band Hand-Talkie or 60 Watt Monitoring Team Units are obtained by each onsite monitoring team for communications with the TSC/EOF. Alternative communications onsite consist of the plant Gai-Tronics network and plant telephone system. Also, Radiation protection guidance is provided in onsite monitoring procedures. Self reading dosimeters and emergency TLDs are available for onsite monitoring team personnel in the emergency monitoring team kits. Additionally instructions for personnel protective clothing and supplies, and respiratory protective equipment needs are contained in the onsite emergency radiological monitoring procedures.

Areas for improvement in EPP/IP 2.1 and 2.2 were discussed with the licensee. Based on the above, this portion of the licensee's program appears adequate.

E. Emergency Plan Implementing Procedures

(1) General Content and Format

The inspector reviewed the licensee's Emergency Plan and Implementing Procedures for general content and format. It was determined that the plans and procedures presented for both Unit 1 and Unit 2 had been combined, however, they did not have in some cases the appropriate review and in all cases the required signatures. The inspectors met with the licensee's EP staff and discussed the content, format, and changes made to Unit 2 Emergency Plan Implementation Procedures (EPP/IP's). The format of the EPP/IP's included objectives, references, responsibilities, action levels or precautions, actual procedure, final conditions, and attachments. EPP/IP's have been revised and separated by use of a color-code scheme into generic procedures (pink), Unit 1 specific procedures (white), and Unit 2 specific procedures (blue).

Prior to the EPIA, the licensee submitted copies of draft procedures to the NRC for review. At the time of the inspection, the inspectors determined that EPP/IP's could be grouped into three (3) categories as follows:

1. Those receiving preliminary Onsite Safety Committee approval of non-substantive revisions - either minor or color-code changes or those items in procedures marked "later" where data from startup testing was unavailable.
2. EPP/IP's not submitted for review since the draft version of the procedure was incomplete (IP 1.2, "Communications and Dissemination of Information" and IP 3.1, "Evacuation")
3. Postponement of OSC review pending further procedure modification (I-1, Instruction 1, "Recognition and Classification of Emergency Conditions", IP 2.6.1, "Dose Projections-Backup Methods").

(2) Implementing Instructions

Formal approval of all site procedures, i.e., final review and sign-off, is required by both the Plant Manager and General Manager, Nuclear Services. Although some draft EPP/IP's have received preliminary OSC approval, official review and authorization by station management had not occurred. The licensee representatives stated these procedures were not expected to be changed prior to approval by station management. Assuming no further changes occur, the inspectors determined that minor modifications were made when reformatting the approved, Unit 1 EPP/IP's into the new versions. In addition to the color coding, changes made to Procedures IP 1.6, "EOF Activation,

IP 2.6.2, "Dose Projection Radose" (deleted), IP 3.2, "Accountability" (new assembly areas added) and IP "7.3," "Communication/Verification Checks" (telephone number changes), appeared acceptable. Other procedures were not reviewed by the inspectors since both levels of review (OSC and management) were incomplete. These will be reviewed during a followup inspection (50-412/87-14-23) and are:

- °I-1, "Recognition and Classification of Emergency Conditions"
- °IP 1.2, "Communications and Dissemination of Information"
- °IP 2.6, "Dose Projection"
- °IP 2.6.1, "Dose Projections-Backup Methods"
- °IP 2.7, "Liquid Release Estimate"

Comments on specific procedures are as follows:

a. Notifications

The inspectors reviewed Sections 3 and 6 of the Emergency Plan and Procedures I-1, I-2, I-3, I-4 and IP 1.1 and determined that for each emergency classification, procedures specified the sequence of notifications to alert, mobilize and augment the onsite emergency organization, including immediate notifications made by the Emergency Director or his designee. The Emergency Plan and Implementing Procedures specified that the on-shift emergency organization will be notified at the Unusual Event (UE) classification with full activation of the emergency organization at the Alert, Site Area or General Emergency classifications. Local services support (fire and ambulance) notifications were not specified by action level but would be requested at the discretion of the Emergency Director. The NRC, State and county governments would be notified by use of a call list at all emergency classifications (UE or above) and when a change in emergency classification occurs. The general public would be notified by the county actuated siren system following information and recommendations provided by licensee emergency staff.

The inspectors noted that IP 1.1 and Section 3 of the Emergency Plan contained provisions to provide one-hour notification to the NRC Operations Center and to maintain a continuous line to satisfy the requirements of 10 CFR 50.72. Beepers and answering machines with pre-recorded messages and station page announcements used for notifying station personnel were included in procedures. However, the onsite alarm systems for Unit 2 were in the testing phase and not turned over from the contractor (See Section 3.D (10)). Planned messages were included on initial and follow-up notification forms in IP 1.1 for notification of offsite agencies. Attachment 2, IP 1.1, is the "Emergency Call List" used for making notifications and contains listings of offsite agencies, telephone numbers, personnel contacts and local support services who are notified by means of commercial telephone.

b. Evacuation

(EPP/IP) 3.1 describes the criteria and instructions for several types of evacuations such as local evacuation unit assembly or site evacuation. This procedure specifies the primary assembly areas for a local evacuation or unit assembly and the remote assembly areas for site evacuation. The primary assembly areas for BV-1 are specified, but the primary assembly areas for BV-2 are not identified (50-412/87-14-24).

IP 3.1 specifies the area radiation levels or projected dose that would trigger an evacuation of the affected area. In addition to other non-radiological hazards such as toxic gases or fire, instructions for specific announcements to be made over the plant page system for each type of evacuation are also described.

The procedure directs Rad Con personnel to establish monitoring stations and to monitor vehicles and personnel, but does not reference specific health physics procedures for radiological monitoring during evacuations (50-412/87-14-25).

EPP/IP 3.2 details the instructions for accounting for personnel and visitors onsite when an evacuation is ordered. This procedure is applicable for all levels of evacuation, and addresses maintaining accountability of duty and emergency personnel not evacuated. The accountability procedures depend primarily on the Security Badge/Key Card system (which was not operational at the time of this inspection, open item 50-412/87-14-10) to clear evacuated persons from the accountability data base.

The Key-Card system can be interrogated at any time to determine the location of persons still within the protected area. A manual personnel accountability system is available as discussed below and is in use until the card system is operational. This information is reported to the Security Coordinator who reports the results of the accountability to the Emergency Director. Search and rescue measures are initiated if necessary. The OSC Coordinator and the TSC Coordinator are responsible for maintaining continuous accountability of emergency personnel.

If the Security Badge/Key-Card System is inoperable, accountability will be accomplished through the manual method. Evacuating personnel will exit the site via the security post through which they entered, surrendering their security badge and dosimeter. Badges are placed in the badge rack in their normal location, and a scan of the badge rack will show missing badges and personnel. Information on missing individuals will be reported to Security by the same procedure used as the key-card method.

F. Security During Emergencies

The inspector interviewed Security Personnel and reviewed applicable EPP/IP and Security Plan Procedures regarding security during emergencies. It was determined that the integrated security/emergency plans and procedures for Unit 1 and 2 are still in draft form, have been reviewed by the Onsite Safety Committee but not approved, and had not been distributed (50-412/87-14-26). It was further determined that security measures to be implemented during an emergency are specified in the Security plan and procedure. Personnel are aware of specific guard post instructions and there are specific instructions for the traffic control post. These and the other security procedures appeared to compliment the Emergency Plan.

G. Drills and Exercises

The inspectors reviewed section 8.0 of the Emergency Plan, discussed program implementation with members of the EP staff, and reviewed the records of drills and exercises held since 1985. The inspectors determined that the last cycle of drills and exercises had been conducted within required time intervals established in the Emergency Plan and Implementing Procedures. Where appropriate, they were coordinated with offsite agencies and groups and no significant deficiencies were identified.

Based on the above, this portion of the licensee's emergency program is acceptable.

4.0 Summary of Findings and Composite Listing of Open Items

During the appraisal it was determined that several Emergency Preparedness Program areas were incomplete or required corrective action. These areas are listed as open items, are addressed within each section of this report and detailed below as to whether they need to be resolved prior to low power or full power license issuance. Items indicated by (*) are required prior to full power license, all other items are required by low power license.

*(50-412/87-14-01)

Develop and Conduct Training with Unit 2 Specific Emergency Preparedness Lesson Plans.

*(50-412/87-14-02)

Complete shift Technical Advisor Training/Qualification.

*(50-412/87-14-03)

Table Top Exercise as presented in Course 9251 should be given to Emergency Director, SRO Candidates and Emergency/Recovery Managers.

*(50-412/87-14-04)

Complete the training for shift personnel on the Emergency Plan Implementing Procedures.

(50-412/87-14-05)

Complete the construction of Unit 2 Control Room to include:
Install an operable dedicated line telephone system between Unit 2 Control Room, TSC and EOF,

Install Connections for headset and direct phones for communications,

Remove wall between shift technical supervisors' offices of Unit 1 and Unit 2 Control Room, and

Remove wall and install separation and access doors between Unit 1 and Unit 2 Control Room.

(50-412/87-14-06)

Place updated and controlled copies of the EP and EPIP's in the Unit 2 Control Room.

(50-412/87-14-07)

Provide respiratory protection equipment and protective clothing for those persons of the Unit 2 Control Room who are members of the Fire Brigade.

*(50-412/87-14-08)

Place as-built drawings for Unit 2 in the ERF records room.

- (50-412/87-14-09)
Complete the installation and acceptability testing of the Safety Parameter Display System (SPDS).
- (50-412/87-14-10)
Complete the functionality portion of the card reading/personnel accountability system.
- *(50-412/87-14-11)
Complete the marking and equipping of the assembly area locations within the exterior of the first floor of the engineering building (currently the S&W Engineering Building).
- *(50-412/87-14-12)
Provide for access to appropriate keys to offsite assembly areas.
- *(50-412/87-14-13)
Acquire an acceptable offsite assembly area (facility) in lieu of the Kennedy Corner facility.
- *(50-412/87-14-14)
Provide procedures and equipment for decontamination at remote assembly areas.
- *50-412/87-14-15)
Complete the construction of the Unit 2 storage area.
- (50-412/87-14-16)
Obtain the list of equipment entitled "Radiological Control Department, EPP Punch List, Open Items" required to EPP.
- (50-412/87-14-17)
Complete the installation, operations testing and calibration, and turn-over of the Digital Radiation Monitoring System (DRMS).
- (50-412/87-14-18)
Complete the development and issuance of procedures for calibration of instruments and monitors as well as a schedule for the calibration of the DRMS.
- (50-412/87-14-19)

Complete the certification of the operating conditions for the detectors in the DRMS.
- 50-412/87-14-20
Complete the training of additional station personnel for the overview, inspection, and repair of the DRMS.

- (50-412/87-14-21)
Complete the installation of equipment in Unit 2 Control Room for required NRPM readouts.
- (50-412/87-14-22)
Complete the installation testing and turnover of standby and evacuation alarms.
- (50-412/87-14-23)
Complete and issue the Emergency Plan Implementing Procedures I-1, IP 1.2, IP 2.6, IP 2.6.1, and IP 2.7
- (50-412/87-14-24)
Complete and specify the primary assembly areas for Unit 2.
- *(50-412-87-14-25)
Complete and issue procedures which reference specific health physics procedures for radiological monitoring during evacuations.
- *(50-412/87-14-26)
Complete and issue the integrated Security/Emergency Plan and Implementing Procedures for Unit 1 and Unit 2.

5.0 Exit Interview

At the conclusion of each day the inspectors reviewed the findings identified in this report with the licensee's Emergency Preparedness staff in order to apprise the licensee of deficiencies or areas of concern as they were found. At the conclusion of the inspection on March 6, 1987 the inspectors met with the individuals identified in Section 1 and summarized each finding. At no time during this appraisal was written material provided to the licensee by the inspectors.