U. S. NUCLEAR REGULATORY COMMISSION REGION I

Report No. 50-247/88-22 Docket No. 50-247 License No. DPR-26 Priority Category C Licensee: Consolidated Edison Company of New York, Incorporated Broadway and Bleakley Avenues Buchanan, New York 10511 Facility Name: Indian Point 2 Station Inspection at: Buchanan and White Plains, New York July X1-15, 1988 **Inspection Conducted:** Inspectors: Emergency Preparedness F. Fox Jr., St. Emergency Specialist, EPS, FRSS, DRSS C. G. Amato, Emergency Preparedness Specialist, EPS, FRSS, DRSS Approved by: WillYam J. Lazarus, Chief, Emergency Preparedness Section, FRSS, DRSS

Inspection Summary: Inspection on July 11-15, 1988 (Report No. 50-247/88-22)

<u>Areas Inspected</u>: Routine, announced, safety inspection of the licensee's emergency preparedness program and emergency response facilities.

<u>Results</u>: No violations, deviations or unresolved items were identified.

DETAILS

1.0 Persons Contacted

The following Indian Point 2 Station personnel attended the exit meeting.

- S. Bram, Vice-President, Nuclear Power
- G. Cullen, Supervisor, Security Operations
- A. Ferraro, Senior Emergency Preparedness Engineer
- M. Gritten, Assistant Director, Public Information
- J. Hughes, Emergency Preparedness Specialist
- G. Liebler, Senior Emergency Preparedness Specialist
- B. Lindgren, Manager, Emergency Preparedness, Public Affairs and Nuclear Environmental Monitoring Section
- M. Miele, General Manager, Technical Services Department
- R. Spring, Principal Nuclear Engineer

The inspectors also observed the actions of, and interviewed, other personnel.

2.0 <u>Emergency Preparedness Responsibility Assignments</u>

- 2.1 A division of emergency preparedness and off site responsibilities between the New York Power Authority (NYPA) and the Consolidated Edison Company of New York (Con Ed) is listed in Section 4.0 of NRC RI Inspection Report 50-247/88-11. Additional assigned responsibilities identified during this inspection are noted below.
 - a. Evacuation Time Estimates (ETEs): NYPA.
 - b. Maintenance of the MIDAS Computer's main frame: Con Ed.
 - c. Maintenance of the MIDAS computer terminal in the Emergency Operations Facility (EOF): Con Ed.
 - d. Off-site pressurized ion chambers: Con Ed

3.0 <u>Emergency Operations Facility (EOF)</u>

3.1 The EOF is located on licensee access controlled property approximately 1700 feet SSE of the site and within an interior area of the Buchanan Service Center building. The walls are constructed of hollow cinder block. The roof is formed of ribbed sheet metal covered with asphalt. The elevation of the EOF is about 112 feet below the top of Unit 2 and 3 containments.

- 3.2 The EOF proper is surrounded by an additional cinder block wall. The Service Center building roof also covers the EOF. The transmission factor for the EOF double wall (exterior and interior) is 5.0; the transmission factor for the roof is 1.0. The EOF is equipped with an air recirculation system which can be isolated by closing the dampers. However, there are no filters in the recirculating system. Recirculation is not provided for any of the other Service Center rooms.
- 3.3 The EOF is currently sized to accommodate a staff of 10 (5 licensee and 5 NRC) on the lower or command level, and a total of 9 on the upper level. The licensee has submitted a plan to increase the size of the EOF area to accommodate the NRC expanded site team. To do this, the EOF south wall will be moved to the far side of a storage area abutting the EOF. The cinder block wall and roof construction will be retained. The recirculating system will not be altered. The expanded EOF will accommodate 15 members of the NRC Expanded Site team. The upper level will also be expanded. Three rooms outside of the EOF proper and adjacent to it will be dedicated to NRC use.
- 3.4 There are 13 communication systems connecting the EOF to other Emergency Response Facilities (ERFs), the Joint News Center, NRC, N.Y. State, the four Counties surrounding Indian Point, City of Peekskill, The U.S. Military Academy at West Point and local and remote Bell exchanges including exchanges within New York City. Three phone systems are hard wired (dedicated). And, there are four radio systems. These systems are independent, diverse and redundant.

This area of the licensee's emergency preparedness program will be reviewed during a future inspection. (50-247/88-22-01)

4.0 Meteorology and Projected Dose Assessment Program

- 4.1 There are three MET towers on site: a primary tower; and two back-up towers. In addition, MET data can also be obtained from a river level tower on the grounds of a generating station located on the west bank of the Hudson River opposite Indian Point. Weather Service International will also provide MET data from about 50 data points around Indian Point. The back up tower is located near the Con Ed Environmental Lab. and it's back up is atop the EOF.
- 4.2 The primary 122 meter tower is located on NYPA property about 900 feet south of the site center line. Wind velocity is monitored continuously at four levels. Lower and upper temperature differences are computed between the 10 and 60 foot elevations (lower) and 10 and 122 foot elevations (upper). Since the release model is a ground level model, only the lower value is used. Sensor output is fed to the MIDAS (Meteorological Information Dose Assessment System) computer continuously via dedicated phone line. If the output from the primary tower is

interrupted, the MIDAS computer is programmed to switch over automatically to the back up tower and also to the final back up tower. Data can be accessed by commercial phone lines in the event the dedicated line fails. Stored data can also be obtained.

- 4.3 MET tower sensors are removed and replaced by laboratory calibrated sensors semiannually. A contractor is responsible for calibration. Laboratory sensor standards are traceable to the National Bureau of Standards. Sensor calibration is effected semiannually and is current. Electronic calibration data was not reviewed; this will be done during a future inspection. (50-247/88-22-02)
- 4.4 The MET tower support building is located within a security fence, and is equipped with an intrusion detector system. Back-up power is provided by a 25 kVA diesel electric generator (DEG); if normal power is lost, the DEG starts automatically.
- 4.5 The primary MET-dose assessment model is a Class A, straight line Gaussian modified to account for the influence of the river valley topography when wind speed is less than 4 m/s. The primary calculational method is a manual method for control room use. MIDAS is a Class B, Gaussian model intended mainly for EOF staff use. Input data are obtained from a number of sources: monitored release points; in-plant samples; field team data; and readings from one or more pressurized ion chambers (PICs) located off site. Both methods are used in the EOF, differences, if any, are resolved and a professional judgement made as to which result set to use.
- 4.6 Calibration records for the vent and steam line monitors as well as the containment high range monitors were reviewed. The check of results for the radiation detectors indicated they are currently calibrated. A check of the electronic system calibration was not undertaken; this will be done during a future inspection. (50-247/88-22-03)
- 4.7 In the event release duration cannot be estimated or the composition of a release cannot be immediately determined, default values will be used. The following default values have been established.

a. Release duration is 4.0 hours.

b. Iodine to noble gas ratio in a steam release is 0.01.

c. Iodine to noble gas ratio in a non-steam release is 0.0001.

Default release mix models are also available.

Except as noted above, the inspectors concluded this portion of the licensee's emergency preparedness program is acceptable.

5.0 Evacuation Time Estimates (ETEs)

5.1 ETEs were up-dated during 1987 and a report dated December 1987 was prepared. These evacuation times were determined for the resident population in all 51 Emergency Response Planning Areas surrounding the site, the transient population, and special populations. Results were given for normal conditions and adverse weather. Traffic bottle necks are identified.

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

6.0 Public Information

- 6.1 A two page insert appears in the yellow pages of the NYNEX phone books for each of the four counties surrounding Indian Point. Readers are advised as to actions to take when they hear a siren or tone alert radio. Frequencies for Emergency Broadcast radio stations and TV channel are given.
- 6.2 Approximately 100,000 stickers have been distributed to motels, hotels, restaurants, and other public institutions. These stickers bear instructions as to what to do in the event an emergency is declared at Indian Point.
- 6.3 About 100,000 brochures were sent to all households within the 10 mile Emergency Planning Zone which contain the information noted in Sections 6.1 and 6.2 above plus a colored Emergency Response Planning Area (ERPA) map showing evacuation routes.
- 6.4 The Joint News Center (JNC) is located in Building 1 of the Westchester County Airport, White Plains, about an hours drive from the site. Twelve rooms are set aside and dedicated for the use of NRC, FEMA, New York State, each of the Counties, and special functions such as: press briefings; rumor control; press phone room; emergency broadcasting; and radio and TV monitoring. The press phone room contains over 100 phones connected to local and non-local exchanges. The press briefing room seats more than 200. Rapid telecopiers and copying equipment are available.

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

7.0 Plans, Procedures, Facilities and Equipment

7.1 The Operation Support Center (OSC) and Technical Support Center (TSC) were inspected. Plans, Implementing Procedures, equipment and communications systems were randomly sampled. It was determined plans and procedures were current, reviewed and approved. Equipment and communications systems were functional.

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

8.0 Independent Audits and Reviews

8.1 Audits and reviews for 1987 were discussed in Section 6.0 of NRC RI Inspection Report 50-247/88-11. The 1988 audit has not been completed. The list of auditors, audit matrix and procedure for determining for adequacy the State and County interface were reviewed. Auditors were independent of the emergency preparedness program, topics covered represented a sample of activities and the approach used to determine interface adequacy was acceptable.

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

9.0 Emergency Preparedness Training

- 9.1 The EPP is responsible for emergency preparedness training. One senior staff member is assigned responsibility and spends 80% of his time on this activity. Lesson plans have been developed, examinations are administered and records are retained. The Personnel Department schedules training, while the Training Department reviews lesson plans and returns training records. Personnel are initially qualified and annually requalified thereafter. Security trains their personnel using subject matter experts. Operators receive EP training. Technical Support Center managers and engineers "take" courses in transient and accident analysis. There are at least three staff members currently qualified for each key Emergency Response Organization position.
- 9.2 Training of members of off site organizations who would come on site to support the licensee and staff members of the support and back-up hospitals is current.

Based on a review of training activities and records, the inspectors concluded this phase of the licensee's emergency preparedness program is acceptable.

10.0 Emergency Preparedness Program (EPP) Organization and Management

10.1 Responsibility for EP is assigned to the "Emergency Preparedness/Public Affairs/Nuclear Environmental Section" headed by a third level site manager who reports to the General Manager Technical Services. The staff numbers seven including a Senior Emergency Preparedness Specialist and a Senior Emergency Preparedness Engineer. Three technicians are also assigned and there is full-time, dedicated secretarial-administrative support. Consideration is being given to adding a person with experience in operations. The General Manager, Technical Services is experienced in emergency preparedness and maintains regular communication with EPP based on need relying on staff conference and meeting with the EP Manager. In addition, there are interfaces with the Site Nuclear Safety Committee, the NYPA, State of New York and the four counties.

Based on the above, the inspectors concluded this portion of the licensee's EPP is acceptable.

11.0 Emergency Operating Procedures and Emergency Action Levels and Protective Action Recommendations

- 11.1 Emergency Operating Procedures (EOPs) carry operators through core melt conditions; they do not contain referrals to Emergency Action Level (EAL) Classification. However, the Abnormal Operating Procedures do contain such cross references. The licensee is planning to flow chart and mount the EOPs for control room use. The board mounted EOPs will contain EAL referrals. Currently, Senior Watch Supervisors are trained to use EPD-1 and check accident classification. The Senior Watch Supervisor, if proposed changes are implemented, will go to an augmented staffing level and Emergency Operations Facility staff tasked with off-site authority interface will be called in at the Unusual Event Classification if classification escalation is likely.
- 11.2 Con Ed is continuing with an Emergency Action Level upgrade program (refer to Section 2.0 of Inspection Report 50-247/88-11). The approach includes events and symptoms. Events include approximately 21 conditions placed in seven groups including security related events. Declaration of an Emergency Action Level above Unusual Event will require breech of at least one barrier. Training in this classification system has begun and the licensee plans to use it during the next emergency preparedness exercise. Inspection Followup Item 50-247/88-11-01 will remain open pending resolution in a subsequent inspection.

12.0 Off Site Activities

12.1 A review of EALs was sent to State and County governments.

12.2 The installation of a siren verification system noted in Section 5.1 of NRC RI Inspection Report 50-247/88-11 is proceeding. The up-graded system will permit bi-weekly silent radio test and a quarterly Alert test which will replace the growl test. The radio test determines receipt of activation signal. The Alert test monitors closure of motor starter, siren energization, and acoustic levels. Feed-back to the EOCs and EOF will be by phone line. Verification signals will be sent by phone. Results will be available in hard copy form. Remote phones will be programmed to dial repeatedly until the system computer is accessed. Specification define a successful test as one completed in 10 minutes or less. The first group of 16 verification units is currently being installed; these are the field test units.

- 12.3 State and County personnel are trained and drilled in the use of the licensee's projected dose computational methodology. The Counties use the initial methodology while the State is trained in use of MIDAS. This training which includes drill practice provides a comparison of on and off site methodology. Since the methodologies and input data are the same, results among participants are always in agreement.
- 12.4 Tone Alert Radios (TARs) have been distributed to 246 special facilities and 63 homes. The TARs are tuned to the EBS station and are equipped with batteries which power the unit if AC is lost. Functionality is checked annually. A letter is sent to each TAR recipient which states test date. A stamped, return post card is enclosed which is to be returned stating if the TAR functioned or not. The NYPA will replace defective TARs. If a reply post card is not received, a follow up phone call is made.

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

13.0 Security-Emergency Preparedness Interface

13.1 The inspector interviewed personnel responsible for the security and emergency preparedness program, inspected the control room and reviewed station administrative orders 124 and 128 using as a basis NUREG/CR-4093," Safety/Safeguards Interactions During Safety-Related Emergencies at Nuclear Power Facilities", dated March 1985. Based upon this review, it was determined that a security/emergency preparedness interface exists. This area will be further reviewed in a subsequent inspection (IFI 50-247/88-22-04).

14.0 Exit Meeting

14.1 An exit meeting was held with the licensee's staff members noted in Section 1.0 of this report. The licensee was appraised of the findings noted in Sections 2.0 through 13.0 of this report. At no time during this inspection did the inspectors provide any written information to the licensee.