

John D. O'Toole  
Vice President

Consolidated Edison Company of New York, Inc.  
4 Irving Place, New York, NY 10003  
Telephone (212) 460-2533

June 9, 1982

Re: Indian Point Unit No 2  
Docket No 50-247

Mr. Ronald C. Haynes, Regional Administrator  
Office of Inspection and Enforcement  
Region I  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pa. 19406

Dear Mr. Haynes:

On June 1, 1982, Con Edison informed NRC Region I inspectors, who were at Indian Point 2, of an exposure to a worker at Con Edison's Indian Point facility in excess of the limits specified in 10CFR Part 20. Pursuant to the reporting requirements of 10 CFR 20.403(b), this incident was reported on June 2, 1982 by telephone to Mr. Greenman of your office and was confirmed in a letter from Mr. Charles W. Jackson to you on that date. In that letter, Con Edison committed to keep NRC Region I apprised of the results of our investigation of the incident and to suspend certain work activities pending determination of the cause of the exposure and implementation of corrective action. The purpose of this letter is to provide additional information concerning the cause of the exposure and the corrective actions which will be implemented prior to resuming diving operations in the spent fuel pool.

As part of the review of this incident the location of fuel assemblies in the spent fuel storage facility has been verified. A visual check, with the use of an underwater television camera as necessary, was made of the fuel racks to assure that a fuel assembly was installed in each location where an assembly was supposed to be located and that a fuel assembly was not in any other location. This verification was independently reviewed by Quality Assurance personnel. One fuel assembly was found in location G-29, which should have been empty. Location B-29, which should have contained a fuel assembly, was empty. This fuel assembly will be relocated prior to resumption of diving operations.

A review was conducted of the instrumentation used in the radiation surveys of the pool immediately prior to the exposure. One alarming dosimeter used by the divers was found to be inoperable. Therefore, the dosimeter would not have properly alerted the diver to the radiation field. In addition, the ionization chamber (CPMU), which was used for the underwater radiation surveys prior to the exposure indicated intermittent erratic behavior. We had relied on the survey conducted with this instrument which due to its erratic behavior may have provided unreliable results.

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Con Edison has determined that the exposure was caused by several contributing factors. These factors included:

1. Incorrect location of a fuel assembly during fuel movement.
2. Failure of the health physics survey, which was conducted between the time of fuel movement and the time of the diving activities, to properly detect the high radiation caused by the misplaced fuel assembly. This failure to properly detect the radiation field was attributable to an instrument malfunction.
3. Failure of the divers' active monitoring equipment to detect the radiation field. The diver was equipped with two types of active radiation monitoring instrumentation: an alarming dosimeter and the ionization chamber designed for use under water (CPMU). The CPMU was the same instrument used to conduct the radiation survey prior to the exposure. The failure to detect the radiation field was due to the failure of both instruments.

Con Edison has instituted several changes to the management control system associated with the installation of the new fuel racks in the spent fuel pool. We believe that these changes provide adequate assurance that this project will be completed in a safe manner. To assure that the management control system is properly implemented, a senior Nuclear Power Generation manager has been assigned full-time to the project and has been relieved of all other duties. The manager is responsible for proper coordination among the Con Edison and contractor organizations involved in the project and will review adherence to the procedural requirements of each participating organization.

In addition to increasing senior management attention and control of this project, Con Edison will implement the following corrective actions prior to resuming diving operations.

During the course of this project Quality Assurance personnel will be present during each fuel shuffle and will conduct an independent verification that each fuel assembly is moved to the proper location in accordance with approved procedures. This verification will be conducted independent of the verifications by plant operators and will not be based on the fuel movement instructions provided to the operators but rather on the spent fuel pool storage map. Movement of any other potentially highly radioactive objects (i.e. greater than 1R/hr on contact) stored in the spent fuel pool is controlled by written procedure and will be independently verified by Quality Assurance personnel. A survey will be conducted prior to the next diving operation following such movement.

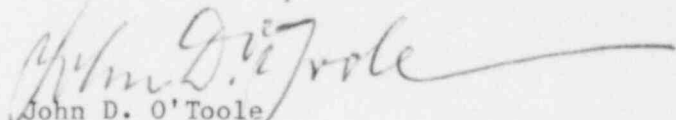
Prior to daily diving operations, health physics supervision and a representative of the diving contractor will conduct an inspection of the fuel storage locations in the vicinity of the diving area to verify that the appropriate adjacent storage locations are empty. At that time health physics personnel will also conduct a radiation survey of the diving area using two independent types of radiation exposure monitoring equipment. In addition, the survey form will be designed to accurately reflect the layout of the racks in the fuel pool as they are being changed during the installation of the new racks.

Each diver will be equipped with an alarming dosimeter. This instrument will be calibrated under the supervision of station personnel and will be checked daily prior to the diving operations. These instruments will be maintained under the control of the Radiation Protection section.

The above corrective actions will be incorporated in procedures which will be reviewed by the Station Nuclear Safety Committee before diving operations resume in the spent fuel pool.

Con Edison believes that these corrective actions provide adequate assurance that no individual participating in this project will be subjected to exposures in excess of the limits set forth in 10CFR Part 20.

Very truly yours,

  
John D. O'Toole  
Vice President

attach.

cc:

Mr. T. Rebelowski, Senior Resident Inspector  
U. S. Nuclear Regulatory Commission  
P.O. Box 38  
Buchanan, New York 10511