BEFORE THE UNITED STATES
ATOMIC ENERGY COMMISSION

12-11-70

In the Matter of	)	
	)	
	)	
	)	Docket No. 50-247
Consolidated Edison Company of New York, Inc. (Indian Point Unit No. 2)	)	

TESTIMONY OF ALEX C. HUSBAND

hearing

Q. Mr. Husband, what was Con Edison's participation in the construction and testing of Indian Point Unit No. 2?

A. During the construction and testing of Indian Point Unit No. 2 by Westinghouse Electric Corporation, Consolidated Edison Company has participated and will continue to participate by surveillance and monitoring of the construction; by performance, under Westinghouse direction, of the testing; and by review of the test results.

Q. What was the objective of these activities?

A. These activities were conducted in order to assure that the plant has been constructed in accordance with the design requirements set forth in the Final Facility Description and Safety Analysis Report, as amended, and with the contract between Con Edison and Westinghouse.

Q. Mr. Husband, did the administrative organization of Con Edison provide a system of checks and balances for the surveillance and monitoring of the construction of Indian Point Unit No. 2?

A. Yes. Division of responsibility within Con Edison during plant construction, test and startup provides a system of internal audit and multiple, independent inspections. This is so because the Engineering Departments follow plant design and carry out off-site inspection of fabricated items, the Construction Department conducts on-site inspection and initial testing, and the Nuclear Power Generation Department conducts the final phase of testing prior to utilization. These departments are under the direction of three different

corporate officers, each of whom reports to the Executive Vice-President - Central Operations. This is the first level at which these activities coalesce.

Q. Which of these departments is responsible for on-site surveillance of the construction at Indian Point, and how was that responsibility discharged?

A. The Construction Department has that responsibility. Its on-site representative is the Resident Construction Manager. He is assisted by a Project Superintendent; a staff of graduate engineers experienced in the fields of mechanical, civil, electrical, chemical and nuclear engineering; plus technicians individually expert in construction operations, including excavation, concrete placement, welding, piping and the installation of mechanical and electrical systems.

Q. What is the primary purpose of the on-site surveillance and what guidelines were used for the inspection activities which it entailed?

A. The primary purpose of the on-site surveillance is to follow day to day construction activities to assure adherence to the plans, specifications and other technical requirements. The basic guidelines for inspection are the engineering drawings, purchase specifications, Final Facility Description and Safety Analysis Report, vendors' technical data, and applicable national codes and standards.

Q. As a result of these activities, are you familiar with the status of construction of the Unit?

A. Yes, I am.

Q. What is the status?

A. All of the plant components may be classified as being within one of four major areas. These are (1) structures, (2) the nuclear steam supply systems, including the auxiliary systems, (3) the conventional steam power and electrical generating and distribution systems, and (4) the engineered safeguards systems. The plant auxiliaries and the instrumentation and control systems are included in these broad categories.

The plant structures are essentially complete, with the exception of the placement of a limited amount of concrete in the containment building. This remaining concrete work is in progress.

All major equipment comprising the nuclear steam supply systems, the engineered safeguards systems and the conventional plant, is installed and ready for testing in preparation for core loading. The major piping systems have been flushed and have passed the pressure and leak tests. Work is in progress to complete the final connection of instrument and control components in preparation for their functional testing together with the associated plant systems.

Q. Is this testing conducted according to detailed written procedures which have been prepared by Con Edison and Westinghouse?

A. Yes, test procedures are prepared by Westinghouse; reviewed by Con Edison's Construction, Engineering, and Nuclear Power Generation Departments; and approved jointly by Con Edison and Westinghouse.

Q. Would you briefly describe the test program?

A. The test program and its objectives are described in detail

in the FSAR. The program evaluates operation of individual components and operation of systems. As an example, the reactor coolant pumps have already been test operated. Prior to core loading, the reactor coolant system, including these pumps, will be tested at operating temperature and pressure, during hot functional testing.

After core loading and the initial low power tests of the reactor, the entire plant is operated through an extensive sequence of tests during which plant power is increased while the plant is monitored for proper performance. The final acceptance test is a 100 hour, full power run.

Q. Mr. Husband, you stated earlier that the Nuclear Power Generation Department conducts the final phase of testing. How do its activities relate to the responsibilities of the Construction Department and what participation does Westinghouse have in the testing program?

A. Prior to core loading, Westinghouse is responsible for component and system testing. Con Edison's participation in these activities, under Westinghouse direction, is the responsibility of the Construction Department, which is in turn supported by personnel of the Nuclear Power Generation Department.

The latter Department has the responsibility for operation of the completed plant and therefore supplies the licensed reactor operators who, with technical guidance from Westinghouse, control the core loading and the operational testing which follows core loading.