DEC 26 1984

Docket No. 50-322

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Mr. John D. Leonard, Jr.
Vice President - Nuclear Operations
Long Island Lighting Company
P. O. Box 618
Shoreham Nuclear Power Station
Wading River, New York 11792

Dear Mr. Leonard:

SUBJECT: CERTIFICATE - SHOREHAM NUCLEAR POWER STATION, UNIT 1 - POLLUTION CONTROL FACILITIES

In your letter dated November 19, 1984 (SNRC-1108) you requested that our office issue the Pollution Control Facilities Certificate attached to your letter.

The NRC staff has reviewed your request, and based on that review, we are satisfied that the portions of Shoreham Nuclear Power Station for which the Long Island Lighting Company has requested NRC certification are in furtherance of the purpose of abating or controlling atmospheric pollutants or contaminants or water pollutants resulting from the generation of electricity at Shoreham. Accordingly, the enclosed certificate has been executed.

Copies of your request and this response will be made available for inspection at the Local Public Document Room, (Shoreham Wading River Public Library, Route 25A, Wading River, New York) and at the Commission's Public Document Room at 1717 H Street N.W., Washington, D.C. 20555.

Sincerely,

Original Signed By
E. G. Case
Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

LB#2/DL/PM	LB#2/DL/BC	AD/DL	D/DL	DD/NRR	D/NRR
RCaruso/lb	ASchwencer	TNovak	DGEisenhut	ECase	HDenton
12/13/84	12/21/84	12/ /84	12/ /84	12/26/84	12/ /84

OELD	DE/EHEB	DSI/RAB/METB	
EJakel	RSamworth	FCongel/DGAmmill	
12/ /84	12/13/84	12/19/84	

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Vice President - Nuclear Operations
Long Island Lighting Company
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Sincerely,

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc: See next page

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ATTACHMENT 1
SNRC-1108

IN FURTHERANCE CERTIFICATE

POLLUTION CONTROL FACILITIES

The Nuclear Regulatory Commission hereby certifies:

(a) that is has examined exhibits, attached hereto, which describe certain facilities which have been constructed, are under construction or are to be constructed at the Shoreham Nuclear Power Station, a nuclear electric power generating plant located in Wading River, New York, and

(b) undivided interests in said plant are owned by the Long Island Lighting Company, and

(c) that such facilities, as designed, are in furtherance of the purpose of abating or controlling atmospheric pollutants or contaminants, or water pollutants resulting from the generation of electricity at the Shoreham Nuclear Power Station.

For the Nuclear Regulatory Commission

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 26 day of 1984

General Description of the Facilities

The facilities consist of the following systems at the Plant and, in each case, include related machinery, equipment, and related facilities:

Sanitary Sewage System

The Sanitary Sewage System collects and disposes of waste from toilets, showers, and sinks located in the Office and Service Building, Control Room, and Radwaste Building. Sewage collected from all points in the system is routed to a sewage collection sump and then pumped to the site septic system for disposal.

The septic system consists of a septic tank, distribution chambers, and dispersed leaching wells.

In addition, a new subsystem of similar design is installed to process the sanitary waste from the newly constructed office building Annex/Technical Support Center and Secondary Access Facility.

Oil Separator Subsystem

Drainage from the Office and Service Building oil room, tool room, auxiliary boiler room, and diesel generator room is routed to an oil separator sump prior to joining the west storm drain header. This system prevents oily wastes from entering natural waterways through storm sewers. The oil separator which is located in a pit outside the Control Building provides for the removal of oil from the potentially oily wastes of equipment in the serviced buildings.

In addition, a corrugated plate oil/water separator is provided to remove potentially oily wastes from the drains of the new Colt Emergency Diesel Generator Building.

Cooling Water System

The Shoreham Cooling Water System disposes of waste heat as required by State and Federal regulations. The cooling water is discharged from a submerged multiport diffuser into Long Island Sound which is required to meet the applicable thermal discharge standards. The Cooling Water System is also designed to limit the cooling water temperature increase in compliance with thermal discharge regulations. A debris-handling and fish-removal system is included in the cooling water intake structures.

Liquid Radwaste Systems

The Liquid Radwaste System collects, stores, and processes radioactive, or potentially radioactive waste fluids from various areas of the plant, including the reactor area, turbine and radwaste areas. Such waste fluids are processed by filtration, absorption, ion exchange, and evaporation to ensure that releases are kept as low as reasonably achievable (ALARA). Water is recovered for reuse in the reactor plant systems thus minimizing the quantity of liquid wastes which must be solidified for off-site disposal. Each system also includes related radiation-monitoring equipment.

Gaseous Radioactive Waste Systems

The gaseous radioactive waste system at the Plant is installed to collect and process the various radioactive or potentially radioactive gases released and to ensure that such releases are kept withing federal regulation limitations, and As Low As Reasonably Achieveable (ALARA) guidelines. The system includes the collection and processing of condenser off gas and also provides for the collection and filtration of ventilation exhausts from buildings containing radioactive or potentially radioactive contaminants.

Solid Radwaste Systems

The Solid Radwaste System for each unit at the plant collects and chemically processes radioactive waste consisting of trash, spent ion exchange resins, waste evaporator concentrates, chemical drain tank effluents, crud tank effluents, used filter cartridges, reactor water cleanup demineralizer resins and contaminated condensate polishing demineralizer resins. Wastes are solidified in the waste solidification system and stored in a shielded location prior to shipment. Each system may include a waste feed tank, chemical handling and storage equipment, cement handling and storage equipment, mixers, and related machinery and equipment. Each system provides for capping, decontamination, swiping, and placement of solidified waste containers in a shielded storage location in the plant, prior to shipment or interim on-site storage. Each system also includes related radiation monitoring equipment and functionally related systems.

Radwaste Building

The Radwaste Building is a separate building housing the majority of systems used for processing liquid, solid, and gaseous radioactive waste generated and is functionally related and subordinate to such systems. The building utilizes a separate ventilation system to filter potentially radioactive effluents.

Low-Level Waste Holding Facility

This facility, when completed, will consist of a converted building used to store low-level dry-active wastes in accordance with the design guidance provided by NRC Generic Letter 81-83 of November 10, 1981.

A separate, future building will also be used to provide for 5 year storage of solidified-solid waste during the temporary period in which off-site shipment may be unavailable.

Shielding

In order to maintain offsite radioactive dose limits in accordance with federal regulations and ALARA guidelines, concrete and steel shielding is provided in the turbine building. Separate wall and roof shields are located in the area of the turbine and moisture separator-reheater primarily to minimize the effects of the N-16 isotope, present in the main steam.

Spent Fuel Storage System

The Spent Fuel Storage System consists of a storage pool, high density fuel storage racks and functionally related cooling and cleanup systems. Spent fuel is stored in the pool until its thermal and radioactive levels have decayed to values suitable for shipment offsite when such facilities become available. Provisions have been made for removal of the fuel via a spent fuel shipping cask with an appropriate cask restraint system and cask washdown area.

The spent fuel pool has sufficient storage capacity to accommodate approximately four (4) complete reactor cores, well beyond the one core minimum required for reactor vessel maintenance and inspection.

Resin Regeneration Subsystem

The Resins Regeneration Subsystem contains equipment, valves, piping and controls required to filter, process and regenerate the demineralizer resins for the condensate polishing demineralizer system and the makeup demineralizer water treatment system. Provisions are also made in these subsystems for the processing, neutralization, and monitoring of exhausted regenerant chemicals and chemical wastes prior to their processing by the solid waste system, or their release to the circulating water system, respectively.

Decontamination Facilities

These facilities include miscellaneous equipment required for decontaminating tools and equipment for reuse or for disposal as dry active waste. The majority of the decontamination equipment is located in the Radwaste Building, with facilities also available in the Turbine Building.