

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

NRC PUBLIC DOCUMENT ROOM

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In the Matter of
LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station,
Unit 1)
-----X

Docket No. 50-322

COUNTY OF SUFFOLK'S SECOND SET OF
INTERROGATORIES AND NOTICE TO PRODUCE
TO APPLICANT AND NRC



By letter to Chairman Elizabeth S. Bowers, dated May 17, 1979, the County of Suffolk requested that the NRC conduct an audit and a physical inspection of the Shoreham plant to evaluate the significance of the engineering documents describing safety related problems which were found in the Southold Town Dump.

The County's technical consultant, Mr. Marc Goldsmith of Energy Research Group, Inc., has reviewed some

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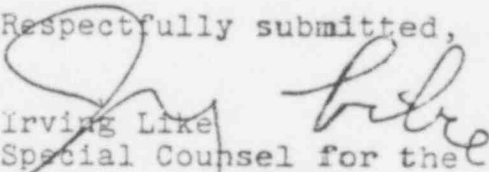
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of these documents and with his aid, the interrogatories hereinafter set forth are propounded to the Company and the NRC.

It is respectfully requested that prompt responses be furnished in view of the concern that has been expressed in some quarters that these documents reveal serious defects in the Shoreham construction. For example, Dr. Michio Kaku, professor of nuclear physics at the City College of New York is reported as expressing such opinion in the news and broadcast media.*

With respect to the interrogatories which follow, the ground rules and definitions set forth in the County's First Set of Interrogatories dated March 28, 1979 are herein incorporated by reference.

Dated: Babylon, New York
June 6, 1979

Respectfully submitted,

Irving Like
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* See Southampton Press article of May 31, 1979, attached hereto and made a part hereof as Exhibit 1. On June 4, 1979 Channel 7 Eyewitness News reported Dr. Kaku's concerns regarding construction problems at the Shoreham plant. The Channel 7 Newscast of May 31 and June 1, 1979 reported allegations of loose security and workers' sabotage.

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APPENDIX "A"

Interrogatories Directed to LILCO

A. Relating to record keeping.

1. Are the LILCO Shoreham construction and design documents on microfiche or hard copy?
2. Does LILCO retain originals of all of these documents on site?
3. What is LILCO's practice with respect to the disposal of documents?
4. Does LILCO claim that such disposal is permitted by any regulation of the NRC; (a) if so, cite the regulation.

B. Relating to Cable Tray records.

1. Are the problems described in these records safety related?
2. With regard to any problems identified in LILCO's engineering and design coordination reports (hereinafter referred to as the "Reports") concerning cable trays, were FSAR changes required?; (a) if so, were such changes in the FSAR made and cite the sections.
3. Was client approval requested and given with respect to such changes?; (a) if not, why not.
4. Has there been a quality assurance/quality control ("QA/QC") check with regard to such changes?; (a) if yes, when was such QA/QC check performed and give the details thereof; (b) if not, why not.
5. What are the criteria for verification of implementation of any change or fix with respect to the cable trays?
6. Who in the LILCO construction organization (which is deemed to refer also to Stone & Webster) makes the decision regarding QA/QC approval, client approval and FSAR change?
7. Is the person who makes that decision the lead engineer?; (a) if not, does the lead engineer or design engineer have to approve or sign off as to such change?

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8. If the item as to which the change is made is safety class 1, have analysis been done of such change to reconfirm seismic and design adequacy?
 9. What are the system identifiers?; (a) explain the numbering system for cable trays and safety related systems so as to permit determination of what the systems are.
- C. Relating to County's prior letter to Chairman Bowers dated May 17, 1979.

The County requests that the information demanded in its letter of May 17, 1979 be deemed in the nature of interrogatories and that they be responded to in the manner requested in said letter.

APPENDIX "B"

Interrogatories Directed to LILCO and NRC

A. Relating to variances.

Background

The County is concerned whether the final drawings reflect "as built". It is the QA/QC function to determine that both the final drawings and the "as built" drawings comply with all NRC requirements. For example, County is interested in determining whether any change or variances from the original drawings is acceptable to the engineer responsible for the system described in said drawing and that such change will not weaken the integrity and function of the structure. The County also wishes to ascertain whether any revised drawings reflect "as built". The interrogatories which follow reflect the County's concerns in this area.

1. How is the variance finally reflected in the drawings and materials available to the plant operators and the NRC?
2. How does the NRC monitor changes in design and construction?

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3. What are the final documents that the NRC reviews prior to recommending for or against a license?
4. How does the NRC reconfirm design and safety adequacy after field variances and changes?

B. Relating to NRC and LILCO's inspection practices.

1. Has the NRC Inspection and Engineer ("I&E") Division inspected Shoreham drawings against complete systems installed to insure that the drawings reflect the "as built" system, that the original design quality requirements are not violated and that the procedures specified by the drawings are followed? If so, give full details as to such inspections and provide copies of inspection reports; if not, explain why not.
2. Has the NRC I&E Division checked Shoreham drawings randomly?; (a) has it checked them for all systems?
3. Did the NRC's check include a records check to assure that all deviations and changes during construction have been verified and reflected on the "as built" drawings?
4. Has the NRC I&E Division rated general contractors on site cleanliness and general morale of their specific construction sites?; (a) if so, provide copies of any reports; (b) if not, explain why not.
5. How do LILCO's and Stone & Webster's efforts compare with those of other utilities?
6. How is the better performance of some general contractors related to and impressed on other contractors and utilities?
7. Has anybody in the LILCO construction organization inspected Shoreham drawings against complete systems installed to insure that the drawings reflect the "as built" systems, that the original design quality requirements are not violated and that the procedures specified by the drawings are followed?; (a) if so, specify who in LILCO's construction organization has performed this responsibility and have any reports concerning such inspection been prepared?; (b) if so, provide copies; (c) if not, why not?

8. Has LILCO checked these drawings randomly?; (a) has it checked them for all safety systems?; (b) has it checked them for all systems?
9. Did LILCO's check also include a records check to assure that all deviations and changes during construction have been verified and reflected on the "as built" drawings?
10. Are suggestions or complaints received by LILCO from craftsman with regard to such practices? If so, how does LILCO integrate and utilize such suggestions and/or complaints to improve and verify proper construction practices?

C. Relating to Hydrostatic Testing.

1. What critical hydrostatic tests regarding safety class fluid systems have been performed and are scheduled and on what dates?
2. Provide test procedures and acceptance criteria for such systems.
3. Provide reports as to the results of such tests.
4. Has the NRC I&E Division observed any of such tests? If so, provide copies of any inspection reports.
5. Is LILCO willing to allow the County's consultant to observe one of the tests chosen at random on safety class equipment?

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Southampton Press May 31, 1979

Expert Reviews A-Plant Reports

"At best the Shoreham plant is a lemon, at worst it's a real threat to the health and safety of the people of Long Island. These reports reveal an absolutely outrageous pattern of shoddy work. They are damning."

So said Dr. Michio Kaku, professor of nuclear physics at the City College of New York Wednesday morning about a boxload of "Engineering and Design Coordination Reports" concerning problems in the construction of the nuclear plant being built by the Long Island Lighting Company at Shoreham.

Copies of the reports — some 416 of which involve what is described on them as "nuclear safety related" problems — are being circulated to independent nuclear scientists around the nation. Dr. Kaku, after studying the papers which were found under a bush in the Southold Town dump declared: "What are involved are most serious problems in the most sensitive areas of the reactor."

He was concerned about violations of the American Society of Mechanical Engineers' standards on pressure pipe welding. "The attitude through the documents is one of, 'Let's just sand it smooth and pass it on,'" he said.

Dr. Kaku stressed that piping in a nuclear plant must be able to withstand "one and a half times the design pressure of 1,000 pounds per square inch."

Improper welding, he noted, "can lead to a weld break of a pipe and if it's in a primary circuit, that's it. A loss of coolant, a catastrophic meltdown can result."

Dr. Kaku said the documents, prepared by the Stone & Webster Engineering Corporation which LILCO describes as partners with its executives as "construction managers" on the project, "are full of examples of shoddy workmanship."

"The reports concerning rebars are most important," he went on. "Rebars are reinforcement bars in concrete and they're not supposed to be hit or cut or the tensile strength of the concrete is reduced. In one document, in ten incorrect tries to make a hole, seven rebars are hit."

Dr. Kaku also expressed concern for mistakes in construction of "the primary containment — what actually holds the uranium fuel rods. There is no more crucial area in a reactor," in the "residual heat remover" system. "This is an area which malfunctioned at Three Mile Island," and in the plant's turbine room.

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