

487

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges
Marshall E. Miller, Chairman
Glenn O. Bright
Elizabeth B. Johnson

DOCKETED
USNRC

74 SEP -5 11:08

SERVED SEP 5 1984

In the Matter of
LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Generating Plant,
Unit 1)

Docket No. 50-322-OL-4
(Low Power)
(ASLBP No. 77-347-01C-OL)

September 5, 1984

ORDER RECONSIDERING SUMMARY DISPOSITION OF PHASE I
AND PHASE II LOW-POWER TESTING

On July 24, 1984, we issued an Order granting in part and denying in part LILCO's motions for summary disposition on Phase I and Phase II of its low-power testing program.¹ LILCO's motions were based upon its assertion that even if the Shoreham facility lacks a qualified onsite source of emergency AC power, the activities to be performed in Phases I and II require no emergency AC power to perform any of the safety functions specified by the General Design Criteria (GDC), specifically

¹ Phase I: Fuel load and precriticality testing.
Phase II: Cold criticality testing.

B409050521 B40905
PDR ADOCK 05000322
G PDR

DS02

GDC-17.² We granted the LILCO motions as to certain uncontroverted statements of material facts, but denied them as to the ultimate issues which would permit LILCO, prior to decision on LILCO's pending application for exemption from GDC requirements, to proceed with the fuel loading, precriticality testing, and limited low-power testing and activities of Phases I and II.

In reaching our decision on the motions we looked for guidance to the Commission's order of May 16, 1984 (CLI-84-8), in which the Commission held that GDC-17 is applicable to low-power operation and that, in the circumstances of this proceeding, LILCO would either have to demonstrate compliance with GDC-17³ or apply for and receive an

² Appendix A to 10 CFR Part 50.

³ GDC-17 states, in pertinent part, that:

"An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.

The onsite electric power supplies, including the batteries, and the onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure" (10 CFR Part 50, Appendix A, Criterion A).

exemption to it pursuant to 10 CFR §50.12(a) before a low-power license could be issued.

However, it has become increasingly clear that the Commission's Order (CLI-84-8) is not without serious ambiguities. Although summary disposition motions regarding LILCO's Phases I and II were technically before the Commission when its Order was written, that Order does not consider or address permission for fuel loading or initial criticality, and it cannot be construed as even purporting to be dispositive of Phase I and II issues. We also looked to the NRC Staff, with its professed expertise in the interpretation and analysis of Commission regulations and rulings, for assistance in interpreting the Order in question.

Prior to the Commission's Order, the Staff had taken the position that the requirements of GDC-17 "should be applied with flexibility and dependent upon the nature of the activity sought to be licensed."⁴ However, the Staff in its June 13, 1984 response to LILCO's summary disposition motions, said that in arguing that no emergency AC power is needed during Phases I and II, LILCO was essentially arguing that GDC-17 did not apply at that level of operation. The Staff stated its belief that CLI-84-8 stands for the proposition that GDC-17 means the same for

⁴ NRC Staff Response To LILCO's Motion for Directed Certification of the Licensing Board's July 24, 1984 Order (August 17, 1984), at page 3. See also SECY-84-290 (July 17, 1984).

low-power operation as for full-power operation, and that in the absence of a fully approved onsite power system, an exemption from GDC-17 is needed before any low-power operating license may be issued (Staff's June 13 Response at page 4).

Subsequent to our decision on summary disposition, LILCO on August 2, 1984 moved for referral and/or for directed certification to the Commission of that decision. In its August 17 Response, the Staff rather abruptly and without adequate explanation again changed its position and now supported LILCO's motion because "early Commission guidance would be helpful" in interpreting CLI-84-8. The Staff did not explain why, if the Commission's Order was as clear as it originally contended, any further (presumably different) guidance would be helpful or necessary. Instead, it merely stated that "the question raised by LILCO here, whether (or how) GDC-17 should be applied to fuel loading and low-power testing, is an issue that may well involve other general design criteria and other license applications" (Staff's Response at page 4). The Staff further revealed that "in a similar situation to that posed by LILCO, the Staff recently granted an exemption from GDC-17 to Duke Power Company to permit fuel loading and precriticality testing at the Catawba facility" (Staff's Response at page 5, footnote 4).

It now appears that the Staff, subsequent to our original summary disposition Order, "has already met with the Commission once (on July 25, 1984) for guidance on how to apply CLI-84-8 to other license applications" (Staff's August 17 Response at pages 4-5). That meeting

with the Commission was apparently triggered by a July 17, 1984 paper or communication from the Executive Director for Operations to the Commission, to "request Commission guidance on the need and standard for exemptions from the regulations in light of the Commission's Shoreham decision, CLI-84-8 (SECY-84-290)." That Staff paper further stated in pertinent part:

"The Shoreham decision, involving compliance with NRC regulations during the early stages of operation, the need for exemptions from the regulations and the standards for granting exemptions under 10 CFR § 50.12, establishes practices and requirements for licensing which differ significantly from prior regulatory interpretation and practice. . . .

"Prior to the Commission's May 16, 1984 decision in Shoreham, the staff had viewed the requirements of the regulations as being reasonably flexible, with various regulatory requirements applicable or important from a health and safety standpoint only for certain modes of operation and operation at certain times and power levels. . . .

"In Shoreham, CLI-84-8, the Commission had occasion to examine the matter of the applicability of General Design Criteria (GDC) 17 to fuel loading and low power operation. Therein, the Commission ruled that GDC 17 does apply to such operations below full power and at least implicitly found that an exemption from GDC 17 must be granted if Shoreham is to be licensed for fuel loading or low power operation prior to compliance with GDC 17. . . .

"In the context of exemptions related to plant operations, these determinations regarding "exigent circumstances" and "as safe as" are wholly new requirements going beyond anything explicitly required by 10 CFR § 50.12. (The concept of "exigent circumstances" had previously been considered a factor only in exemptions granted pursuant to 10 CFR § 50.12(b), issuing limited work authorizations.). . . .

"(5) Does the Commission intend, by its Shoreham decision, to modify those regulatory standards for granting

exemptions set forth explicitly in 10 CFR § 50.12(a) by adding the standards on "exigent circumstances" and "as safe as" which are raised in CLI-84-8?

"(6) Is it the Commission's intent that the "as safe as" standard be read literally or is there some de minimus reduction in safety that would be acceptable in granting an exemption under the Commission's standards in Shoreham?" (At pages 1-3, 5).

As a result of the Staff's request for clarification of the Shoreham decision, the Commission held a Discussion of Commission Practice on Granting Exemptions at an open meeting on July 25, 1984.⁵ The General Counsel had filed a written discussion of various aspects of the ramifications of the Shoreham exemption decision. Among other things, it stated that "[s]ome regulations, including some GDC, may properly be considered inapplicable to fuel loading and low power testing if such a conclusion is fairly compelled by simple logic and common sense..."⁶

Finally, the Staff has recently modified and restated its interpretation of CLI-84-8 in the instant proceeding. During closing arguments on August 16, 1984, the Staff stated that the "as safe as"

⁵ Although a transcript of this open meeting is readily available, we have not considered or relied upon it in light of the Commission's Disclaimer statement and the provisions of 10 CFR § 9.103.

⁶ General Counsel's Discussion of Exemptions dated July 24, 1984 (SECY-84-290A) at page 26.

rule laid down in CLI-84-8 is a "comparable level of safety" rule.⁷ It further agreed that a comparable level of safety is "some kind of a rule of reason" (Id.). And the Staff also stated that its recommended comparable level of safety rule is the same as "substantially as safe as."⁸

Given this rich diversity of views regarding the Commission's intent and meaning in its Order CLI-84-8, we conclude that the Staff's original advice to the Board regarding the summary disposition motions on Phases I and II, was not correct. We are also concerned that a court of law reviewing these orders might well conclude that LILCO was being discriminated against and treated differently than other utilities similarly situated, contrary to the equal protection of the laws and the due process requirements of the Fifth Amendment to the United States Constitution. Accordingly, our Order of July 24, 1984, denying summary disposition of Phases I and II of LILCO's low-power testing program, will be reconsidered and reversed.

In its original summary disposition motion, LILCO argued that as to Phase I fuel loading and precriticality testing, there are no fission products in the core and no decay heat. Therefore core cooling is not required, and with no fission product inventory, fission product

⁷ Tr. 3043.

⁸ Tr. 3045-47.

releases are not possible. Because no core cooling is required, no AC power (either onsite or offsite) is needed "to permit functioning of structures, systems, and components important to safety" (GDC-17).

As to Phase II cold criticality testing, LILCO asserted that any self-sustaining nuclear reaction will be conducted at extremely low power levels and for very short periods of time, and that radioactive fission products produced will be negligible. A review of the accident and transient events contained in Chapter 15 of the Shoreham FSAR shows that there are no consequences even assuming no onsite AC power source, and in fact no AC power is required to protect the core. In essence, LILCO seeks summary disposition as to Phases I and II, because no onsite or offsite AC power is necessary to perform the safety functions needed to protect the public health and safety. We believe that such summary disposition should be granted. In reconsidering Phases I and II summary disposition motions, we note that an evidentiary hearing has been concluded and that uncontroverted factual information is available to the Board. The following material facts were not controverted and were therefore admitted in this proceeding.

" Phase I

(7) During Phase I fuel loading and precriticality testing, there are no fission products in the core and no decay heat exists. Therefore, core cooling is not required. In addition, with no fission product inventory, there are no fission product releases possible. Rao, et al., Tr. 283-84; Sherwood Affidavit at ¶ 11; Hodges Affidavit at ¶ 4.

" (8) Even a loss of coolant accident would have no consequences during Phase I since no core cooling is required. . . .

" (9) No core cooling is required during Phase I and, therefore, no AC power is necessary during Phase I to cool the core.

"Rao, et al., Tr. 285; Sherwood Affidavit at ¶ 13; Hodges Affidavit at ¶ 3.

Phase II

" (8) Because of the extremely low-power levels reached during Phase II testing, fission product inventory in the core will be only a small fraction of that assumed for the Chapter 15 analysis. The FSAR assumes operation at 100% power for 1,000 days in calculating fission product inventory; inventory during Phase II low-power testing will be less than 1/100,000 (0.00001) of the fission product inventory assumed in the FSAR. Rao, et al., Tr. 295; Sherwood Affidavit at ¶ 17.

" (9) If a LOCA did occur during the cold criticality testing phase (Phase II), there would be time on the order of months available to restore make-up water for core cooling. . . . With these low decay heat levels, the fuel cladding temperature would not exceed the limits of 10 CFR § 50.46 even after months without restoring coolant and without a source of AC power. Thus, there is no need to rely on the TDI diesel generators, or any source of AC power. Rao, et al., Tr. 292-94; Sherwood Affidavit at ¶ 19; Hodges Affidavit at ¶ 8.

(10) During Phase II cold criticality testing conditions, there is no reliance on the diesel generators for mitigation of the loss of AC power event or the feedwater system piping break event. . . .

(12) None of the events analyzed in Chapter 15 could result in a release of radioactivity during cold criticality testing that would endanger the public health and safety. Rao, et al., Tr. 296; Sherwood Affidavit at ¶ 17.

(13) Even if AC power were not available for extended periods of time, fuel design limits and design conditions of the reactor coolant pressure boundary would not be approached or exceeded as a result of anticipated operational

" (8) Even a loss of coolant accident would have no consequences during Phase I since no core cooling is required. . . .

" (9) No core cooling is required during Phase I and, therefore, no AC power is necessary during Phase I to cool the core.

"Rao, et al., Tr. 285; Sherwood Affidavit at ¶ 13; Hodges Affidavit at ¶ 3.

Phase II

" (8) Because of the extremely low-power levels reached during Phase II testing, fission product inventory in the core will be only a small fraction of that assumed for the Chapter 15 analysis. The FSAR assumes operation at 100% power for 1,000 days in calculating fission product inventory; inventory during Phase II low-power testing will be less than 1/100,000 (0.00001) of the fission product inventory assumed in the FSAR. Rao, et al., Tr. 295; Sherwood Affidavit at ¶ 17.

" (9) If a LOCA did occur during the cold criticality testing phase (Phase II), there would be time on the order of months available to restore make-up water for core cooling. . . . With these low decay heat levels, the fuel cladding temperature would not exceed the limits of 10 CFR § 50.46 even after months without restoring coolant and without a source of AC power. Thus, there is no need to rely on the TDI diesel generators, or any source of AC power. Rao, et al., Tr. 292-94; Sherwood Affidavit at ¶ 19; Hodges Affidavit at ¶ 8.

(10) During Phase II cold criticality testing conditions, there is no reliance on the diesel generators for mitigation of the loss of AC power event or the feedwater system piping break event. . . .

(12) None of the events analyzed in Chapter 15 could result in a release of radioactivity during cold criticality testing that would endanger the public health and safety. Rao, et al., Tr. 296; Sherwood Affidavit at ¶ 17.

(13) Even if AC power were not available for extended periods of time, fuel design limits and design conditions of the reactor coolant pressure boundary would not be approached or exceeded as a result of anticipated operational

occurrences, and the core would be adequately cooled in the unlikely event of a postulated accident. Rao, et al., Tr. 295-96; Sherwood Affidavit at ¶ 22." (Board Order entered July 24, 1984, pages 10-13.)

The Board interprets the Commission's Order of May 16, 1984 (CLI-84-8) as implicitly containing a rule of reason in applying the requirements of GDC-17 to fuel loading and low-power testing. If no emergency AC power is required for core cooling during Phases I and II, then the proposed changes in the AC power source could have no effect on the "functioning of structures, systems, and components important to safety," as required by GDC-17. Accordingly, "simple logic and common sense" indicate that LILCO should be permitted to conduct fuel loading and low-power testing as proposed in Phases I and II, and it is so ordered. This result is consistent with the recent action of the Staff in permitting Duke Power Company to load fuel and conduct precriticality testing at the Catawba facility.⁹ It is also consistent with the Commission's action regarding use of similar TDI diesel generators at the Grand Gulf facility.¹⁰ Such a result is compatible with the Commission's underlying reasoning and with the Staff's wide-spread practice over a number of years. It also gives the applicant the same

⁹ Staff's August 17, 1984 Response at page 5, footnote 4. See Catawba SSER No. 3, at 8-1 through 8-3, NUREG-0954.

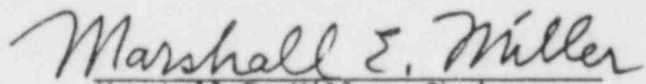
¹⁰ Safety is the paramount concern of the staff at whatever stage of operation or procedural posture.

treatment as that accorded other utilities under the same or similar circumstances, and hence complies with the constitutional requirement of nondiscrimination and equal protection of the laws.

Finally, in CLI-84-8 the Commission expressly reserved its power to conduct an immediate effectiveness review of any initial decision authorizing the grant of an exemption. Accordingly, this Order Reconsidering Summary Disposition of Phase I and Phase II Low-Power Testing is transmitted herewith directly to the Commission for its appropriate action.

It is so ORDERED.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD


Marshall E. Miller, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland
this 5th day of September 1984.