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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
LONG ISLAND LIGHTING COMPANY)	Docket No. 50-322-OL-4
)	(Low Power)
(Shoreham Nuclear Power Station,)	
Unit 1))	

APPLICATION FOR EXEMPTION

I. BACKGROUND AND EXEMPTION REQUEST

Two months ago, on March 20, 1984, Long Island Lighting Company (LILCO) filed its Supplemental Motion for Low Power Operating License. LILCO made clear that unusual circumstances prompted the motion:

The Shoreham Nuclear Power Station represents both a huge commitment of economic resources and Long Island's only power plant not dependent on foreign oil. Thus, there are compelling reasons for the station's early operation. Instead of being free to begin necessary and beneficial low power testing and training, however, Shoreham faces six to nine months of delay rooted in litigation concerning diesel generators. This delay is unnecessary to assure the public health and safety for the activities authorized by a low power license.

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Supplemental Motion at 1. LILCO recognized that Shoreham's circumstances demanded immediate Commission involvement. Thus, the motion stated:

As a practical matter, LILCO believes that whether Shoreham is entitled to such a license is a question that only the Nuclear Regulatory Commission itself can decide. The intensely political environment that now envelops Shoreham makes virtually certain that the NRC's highest tribunal must act before the plant will be allowed to conduct any operations, even loading fuel. Recognition of this reality prompts LILCO to request:

1. That this Board promptly refer the present supplemental motion to the Commission for decision, pursuant to 10 CFR § 2.718;
2. That if the Board decides against immediate referral, it then consider and decide this supplemental motion in an expedited fashion and thereafter certify its decision to the Commission, pursuant to 10 CFR § 2.730.

Id. at 3-4.

The Commission, however, chose not to become immediately involved. An evidentiary process was then set in motion by this Board. The process was interrupted on April 25, 1984, by a temporary restraining order. On the eve of argument

over the validity of that order, the Commission vacated the procedural arrangements under which LILCO's March 20 request was being considered.^{1/} The Commission has now, finally, engaged threshold issues of substance and procedure regarding LILCO's March 20 motion. On May 16, 1984, the Commission ruled (1) that LILCO must proceed by way of an application for exemption and (2) that further consideration of the merits of low power testing at Shoreham is to be conducted by this Licensing Board on a schedule akin to this:

- Day 1 - Filing and same-day service to all parties of applicant's request for exemption pursuant to 10 CFR 50.12(a);
- Day 2 - Discovery commences;
- Day 32 - Discovery ends;
- Day 45 - Testimony filed;

^{1/} In LILCO's judgment, the federal suit underlying the TRO would have been dismissed for the reasons set out in LILCO's April 27 filings in the district court. The court lacked subject matter jurisdiction because (1) the suit was filed in the wrong court, (2) a scheduling order is not a reviewable final agency action, (3) no agency action had been taken on the disqualification issue, and (4), as a matter of law, no deprivation of due process had occurred. With respect to the disqualification issue, the complaint also failed to state sufficient facts to support the asserted claim of bias. Finally, the plaintiffs had failed to meet the standards for the issuance of a preliminary injunction.

Day 55 - Hearings begin.

Commission Order of May 16, 1984, at 3-4.

LILCO, accordingly, (1) formally seeks an exemption under § 50.12(a) from that portion of General Design Criterion 17, and from other applicable regulations, if any, requiring that the TDI diesel generators be fully adjudicated prior to conducting the low power testing described in LILCO's March 20 motion,^{2/} and (2) that the procedural arrangements just quoted from the Commission's May 16 Order be adopted for the remainder of the proceeding.

^{2/} GDC 17 requires that for full power operation a plant have an onsite and offsite power system as follows:

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 limits and 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.

10 CFR Part 50, Appendix A, Criterion 17.

During the past two months, an extensive record has been developed that documents LILCO's ability to conduct low power testing safely without reliance on the TDI diesel generators.^{3/} In the words of the Director of Nuclear Reactor Regulation, the risks in question are "very small." Transcript of May 7, 1984 Oral Argument, at 117. The present application is based upon the affidavits filed with LILCO's March 20 motion, as well as the testimony of LILCO's witnesses during the April 24-25 hearings.^{4/} The application modifies to the

^{3/} That record includes extensive affidavits filed by LILCO with its March 20 motion, the NRC Staff's Safety Evaluation Report (Supplement No. 5), direct testimony filed April 20 by LILCO (7 witnesses) and the NRC Staff (4 witnesses) and the transcript from one and one-half days of hearings held April 24 and 25 concerning LILCO's motion. A summary review of activity in this proceeding since filing of LILCO's Supplemental Motion is included in LILCO's Comments In Response To The Commission's Order Of April 30th, filed May 4, 1984.

^{4/} The affidavits include the following:

Affidavit of Jack A. Notaro and William E. Gunther, Jr. (Notaro Affidavit);

Affidavit of William G. Schiffmacher (Schiffmacher Affidavit);

Affidavit of Dr. Glenn G. Sherwood, Dr. Atambir S. Rao and Mr. Eugene C. Eckert (Sherwood Affidavit); and

Affidavit of William J. Museler (Museler Affidavit).

(footnote cont'd)

extent necessary, and is otherwise an adjunct to, LILCO's June 8, 1983 motion for low power license and its March 20, 1984 supplemental motion for such a license, both of which are renewed and their contents incorporated here.

II. THE STANDARDS OF § 50.12(a) ARE SATISFIED

Section 50.12(a) provides that:

The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

(footnote cont'd)

The testimony includes the following as found in the transcript for April 24-25, 1984:

Testimony of William E. Gunther, Jr. (Gunther, ff. Tr. 197);

Testimony of Atambir S. Rao, Eugene C. Eckert, George F. Dawe and Robert M. Kascsak (Rao, et al., ff. Tr. 264);

Testimony of William G. Schiffmacher (Schiffmacher, ff. Tr. 479); and

Testimony of William J. Museler (Museler, ff. Tr. 553).

A. The Activities To Be
Conducted Are Authorized By Law

As is now well known to all concerned, the low power testing program proposed for Shoreham is divided into four phases:^{5/}

- Phase I: fuel load and precriticality testing;
- Phase II: cold criticality testing;
- Phase III: heat up and low power testing to rated pressure/temperature conditions (approximately 1% rated power); and
- Phase IV: low power testing (1-5% rated power).

The activities to be conducted in each of these phases is described in more detail in LILCO's previous submittals.^{6/} They are the type normally conducted during the start-up of all nuclear power plants. Obviously, the activities are "authorized by law." Significantly, the Commission did not

^{5/} LILCO does not believe a waiver of GDC 17 is necessary for Phases I and II because the proposal for these phases did not depend on the interpretation of § 50.57(c) and GDC 17 rejected on May 16 by the Commission. Thus, LILCO will renew its motions for summary disposition on these two phases within a few days. In the alternative, if the Board believes an exemption from GDC 17 is necessary for Phases I and II, it is hereby requested.

^{6/} Notaro Affidavit; Gunther, ff. Tr. 197.

direct that this aspect of § 50.12(a) be addressed; it did specifically call for a discussion of the health and safety and public interest aspects of § 50.12(a). Commission Order of May 16, 1984, at 2-3.

B. Low Power Operation
Does Not Endanger Life Or Property

To ensure that the activities proposed during the four phases of low power testing will not endanger the public, LILCO reviewed the spectrum of accidents and transients considered in Chapter 15 of the Shoreham Final Safety Analysis Report (FSAR) using the assumption that the existing onsite AC power source (TDI diesel generators) was not available. Chapter 15 of the Shoreham FSAR provides the results of analyses for the spectrum of accident and transient events that must be accommodated by the plant to demonstrate compliance with the NRC's regulations. Sherwood Affidavit at ¶ 4; Rao, et al., Tr. 275. The scope of Shoreham's Chapter 15 analysis has been approved by the NRC Staff and the Brenner Licensing Board. Sherwood Affidavit at ¶ 4; Rao, et al., Tr. 276; Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-63-57, 18 NRC 445, 565-67 (1983). Consequently, it is appropriate to rely on this analysis as a basis for judging the protection provided to the

public and assuring that "at the power levels for which [LILCO] seeks authorization to operate, operation would be as safe under the conditions proposed by it, as operation would have been with a fully qualified onsite AC power source." See Commission Order at 3. The following discussion briefly summarizes the evidence LILCO has presented in its March 20 motion and affidavits and in its testimony during the April 24-25 hearings.

1. Phase I:
Fuel Load and Precriticality Testing

Phase I will involve loading fuel in the core and conducting certain precriticality testing. Gunther, Tr. 201-02; Notaro Affidavit at ¶ 6. During this phase, the reactor will not be taken critical -- no self-sustaining nuclear reaction will occur. It follows that there will be no fission products in the core. Therefore no decay heat would be generated following an accident and there would be no radioactive materials to be released from the reactor. Rao, et al., Tr. 279; Sherwood Affidavit at ¶ 7. As a result, no AC power, either onsite or offsite, is required to protect the public health and safety during this phase. Rao, et al., Tr. 284-85; Sherwood Affidavit at ¶¶ 9, 13. Accordingly, even if

one of the accident or transient events analyzed in Chapter 15 were to occur (and most are impossible or highly unlikely), there would be no danger to the public.

2. Phase II: Cold Criticality Testing

Phase II includes the initial criticality of the plant and associated testing at essentially ambient temperature and atmospheric pressure. Gunther, Tr. 204-06; Rao, et al., Tr. 285-86; Sherwood Affidavit at ¶ 14. As in Phase I, during Phase II, the accident and transient events analyzed in Chapter 15 would pose no threat to the public health and safety, even assuming the unavailability of an onsite power source. At the extremely low power levels (.0001% to .001%) achieved during this phase and the short period of time at these power levels (less than five minutes), there will be an extremely low level of fission products in the core. Rao, et al., Tr. 294-5; Sherwood Affidavit at ¶ 17; Gunther, Tr. 205-06. Thus, there will be essentially no radioactivity available for release to the environment in the event of an accident and essentially unlimited time available to restore cooling to the core.

3. Phases III and IV: Heat Up and Low
Power Testing (up to 1% and 1%-5% of Rated Power)

During Phase III, reactor heatup and pressurization is achieved and the power level is taken to approximately 1% of rated power. In Phase IV, testing is performed at power levels up to 5%. Operation of the plant during Phases III and IV will pose far less risk to the public health and safety than would operation of the plant at 100% rated power. This reduced risk is generally attributable to three factors: (i) the small inventory of fission products in the core compared to full power operation; (ii) increased time available to take appropriate manual actions; and (iii) reduced capacity requirements for mitigating systems (such as cooling and ventilation systems). Sherwood Affidavit at ¶¶ 26, 28; Rao, et al., Tr. 299-301.

Again, Chapter 15 of Shoreham's FSAR provides the framework for assessing protection of the public health and safety during Phases III and IV. Of the 38 events included in Chapter 15, three cannot occur during these phases. Sherwood Affidavit at ¶ 24; Rao, et al., Tr. 298. Of the remaining 35 events, 31 do not require an assumption of the loss of offsite AC power concurrent with the event. Thus, the assessment of

these Chapter 15 events during Phases III and IV is unaffected by the status of the diesel generators, since they are not required to mitigate these events. Sherwood Affidavit at ¶ 25; Rao, et al., Tr. 302.

For the four Chapter 15 events that do assume a loss of offsite AC power, the Licensing Board must decide whether there is reasonable assurance that emergency AC power will be available to accomplish the required safety functions normally powered from the onsite power supply. Sherwood Affidavit at ¶ 29. Of these four events,^{7/} the loss of coolant accident (LOCA) event is the most significant because it has the potential for rapid loss of coolant inventory in the reactor vessel. Sherwood Affidavit at ¶ 29; Rao, et al., Tr. 302. In the unlikely event of a LOCA during Phase III, a realistic assessment of the accident sequence indicates that more than 24 hours would be available to restore AC power without exceeding fuel limits specified in 10 CFR § 50.46 and Appendix K. Rao, et al., Tr. 302. Even using very conservative assumptions, more than six hours would be available to restore cooling to

^{7/} The four pertinent events are loss of AC power, pipe breaks inside the primary containment (loss of coolant accident), pipe breaks outside primary containment (steam line break accident) and feedwater system piping break.

prevent the core from exceeding § 50.46 limits. Rao, et al., Tr. 303. And during Phase IV, more than three hours would be available under a realistic assessment; 86 minutes would be available even under the extremely conservative Appendix K assumptions. Rao, et al., Tr. 307. Even if the Appendix K limits were reached, there would be no release of fission products during Phases III and IV because no fuel perforation would occur; at low power there is a significant margin between the Appendix K temperature limit and the temperature at which cladding perforations occur. Rao, et al., Tr. 306-07, 309.

The public will not be endangered because AC power will be available in sufficient time to mitigate these events. LILCO's affidavits and testimony^{8/} have shown that it strains credulity to assume that all AC power to Shoreham will be lost.^{9/} Even if that assumption is made, AC power can be restored to Shoreham from a multitude of power sources in a matter of minutes -- only a fraction of the time it would take

^{8/} See Schiffmacher Affidavit; Schiffmacher, ff. Tr. 479.

^{9/} In addition to the multiple power sources available, LILCO will initiate steps to place the reactor in cold shutdown in the event of certain conditions (e.g., weather, seismic) that might threaten the normal offsite power supply during Phases III and IV. Museler, Tr. 561-62. The Company has also committed to periodic testing of certain offsite power supplies to ensure their operability. Museler, Tr. 577.

to reach core limits in a worst case accident. In sum, there is a backup for every credible failure of AC power and more. If an unlikely system-wide failure occurs, power is available through the two power pools to which LILCO is connected and from black start gas turbines at each of LILCO's major generating stations. If these sources fail, independent black start gas turbines at Holtsville, East Hampton and Southold will provide power to the plant in minutes using the available transmission system. If the entire transmission system fails, the 20 megawatt gas turbine located at the Shoreham site is available to start automatically and provide power to the plant. And if that gas turbine fails simultaneously with the failure of everything else, there still remain four GM EMD diesel generators also located onsite, only one of which is needed to mitigate the worst case accident.

Given all of these power sources, it is highly unlikely that Shoreham will ever lose offsite power during Phases III and IV operation. But even if such a loss were to be assumed, the protection afforded public health and safety is the same as that required by the regulations for any other plant operating at 5% power because even the worst-case LOCA event will not result in any release of fission products from the fuel prior to restoration of AC power. The Commission has already found

that operation of plants at less than 5% power presents little risk to the public health and safety. LILCO has demonstrated that its proposal for low power operation, including an exemption from GDC 17's requirement for an onsite power source, does not increase that already low risk.^{10/}

C. The Requested
Exemption Is In The Public Interest

The Commission's May 16 Order set forth the following guidelines for determining whether "exigent" or exceptional circumstances exist and, accordingly, whether the public interest will be served by granting the requested exemption:^{11/}

A finding of exceptional circumstances is a discretionary administrative finding which governs the availability of an exemption. A reasoned exercise of such discretion should take into account the equities of each situation. These equities include the stage

^{10/} Section 50.12(a) also requires that the exemption not endanger the "common defense and security." The term "common defense and security" means the common defense and security of the United States. 42 USC § 2014(g). Nothing in LILCO's exemption request has any impact on national defense or security. Again, the Commission did not direct that this aspect of § 50.12(a) be addressed. Commission Order of May 16, 1984, at 2-3.

^{11/} The "exceptional circumstances" criterion is not expressly mandated by § 50.12(a), which requires only that the exemption be "otherwise in the public interest."

of the facility's life, any financial or economic hardships, any internal inconsistencies in the regulation, the applicant's good-faith effort to comply with the regulation from which an exemption is sought, the public interest in adherence to the Commission's regulations and the safety significance of the issues involved.

Commission Order at 2-3 n.3. All of these and other factors weigh in favor of finding that the requested exemption is "otherwise in the public interest." 10 CFR § 50.12(a).

1. Fairness to the Applicant

Shoreham's operating licensing proceeding began in April 1976. Last month, the proceeding entered its ninth year. To date, four different Atomic Safety and Licensing Boards -- and 17 different NRC trial judges, enough to staff six ASLBs -- have sat on various aspects of the case. Three Boards are still sitting.

With few interruptions, the eight years since April 1976 have involved constant, complex licensing activity. Hundreds of issues have been raised by a large array of intervenors. Immense informal and formal discovery has taken place -- e.g., hundreds of thousands of pages of documents have been formally produced or made available for inspection; the

depositions of over 130 people have been taken in places from New York to California; scores of issues have been settled after the informal exchange of great amounts of information and extended discussion and negotiation. Since the beginning of formal evidentiary sessions two years ago, over 14,500 pages of written direct testimony have been served; over 170 days of hearings have been held; and the transcript has passed 32,000 pages. Since 1976, simply the rulings by various Licensing and Appeal Boards involved in the proceeding, as well as by the Commission itself, have exceeded 2,800 pages. In short, the length and breadth of this proceeding give Shoreham a unique place in the annals of American administrative law.

As a result, the Shoreham proceeding has become prejudicially burdensome to LILCO.^{12/} Many of LILCO's people have been compelled to devote inordinate amounts of their time and energy to licensing struggles. Their time could have been far more productively spent preparing the plant for safe and reliable operation. Obviously, more than eight years of

^{12/} Fairness to the applicant is one of the considerations incident to assessing the public interest. See Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-75-9, 2 NRC 180, 184-85 (1975). As this Board has recognized, all parties, including applicants, have a right to due process. Board Order of April 20, 1984, at 5.

litigation has also cost LILCO substantial sums of money. More important, it has been prejudicial to LILCO because it has created the perception that licensing litigation over Shoreham may never end, that the plant may never come on line because a merits decision on its operation will be delayed for one reason or another, over and over and over again.

The prejudice to LILCO caused by the process just described is not justified by its substantive results to date. With rare exception, and none pertinent to low power operation, all questions and challenges to date -- once tested during sworn adjudicatory hearings -- have been persuasively answered or refuted. As the Brenner Board's 1400-page Partial Initial Decision of September 21, 1983, makes unavoidably clear, the protracted hearing process has not resulted in showings of inadequacy at Shoreham.^{13/} That decision was favorable to

^{13/} See generally Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-83-57, 18 NRC 445 (1983). The quality assurance litigation in the Shoreham proceeding is illustrative. After near-interminable discovery and hearings, the claims of Suffolk County were emphatically rejected. See 18 NRC at 578-622 (opinion alone, findings not published). The Licensing Board noted its frustration with the County's mistreatment of the vast quality assurance record:

Once again, the Board, in reaching its conclusions on these contentions, is faced with a massive record, based on 55 days of hearing,

(footnote cont'd)

LILCO on all matters incidental to a low power license, with the exception of the need for further litigation concerning the reliability of the TDI diesel generators. And, as LILCO has demonstrated, it is not necessary to complete TDI litigation to protect the public during low power testing.

2. Status of Construction

After more than a decade of construction, including eight years of licensing activity, the plant is now ready to

(footnote cont'd)

extensive written testimony and exhibits, and voluminous proposed findings of fact and opinions by the parties that are disparate, at least. The difficulty of our task, trying to be objective in consideration of each of the parties' submissions, is further compounded by the County's misrepresentation of the complete record -- by omission, selective citations and distortion of recorded testimony.^{34/}

^{34/} Our view of the County's performance is strictly our own. Our conclusion, however, is not without independent, if biased, corroboration. LILCO, on its own initiative, took the trouble of analyzing all 732 proposed findings of the County. It found 365 (50%) of them inaccurate, for 439 reasons (157 out of context, 100 with no citation, 105 with unjustified inference and 67 refuted on the record).

load fuel and conduct low power testing. LILCO should, therefore, be afforded the opportunity to test the plant in which it has a substantial financial commitment.

3. Dependence on Foreign Oil

Granting this exemption will accelerate Shoreham's availability to reduce this country's reliance on foreign oil. LILCO is entirely dependent on foreign oil for the production of electricity, and a substantial portion of New York State's electric power is similarly dependent upon such imports. While oil is presently available, recent history instructs us that changes in oil supply can occur rapidly, with little or no warning. Thus, there is an ever present threat that imported oil prices will rise precipitously or that supplies will be interrupted. It is in the public interest that LILCO's only power plant not fueled by imported oil be ready to operate in the event such circumstances arise.

4. Economic Benefits

Approval of LILCO's exemption request is also in the public interest because it will result in economic benefits of

\$90-\$135 million. Decisions concerning the TDI diesels and emergency planning now appear likely by the end of the year. If these decisions are favorable to LILCO, the Company can then proceed to bring the plant to full power operation. If the low power testing program is already completed at that time, several months can be cut off the time it would otherwise take to achieve commercial operation.^{14/} Given that it costs approximately \$45 million per month for Shoreham to sit idle, \$90-\$135 million can be saved by permitting low power testing at Shoreham in the near future.

5. Rational Regulation

The public interest is served as well by eliminating unnecessary regulatory requirements. As shown in section II.B above and in the prior LILCO and NRC Staff submittals to this Board, it is not necessary to have qualified onsite diesel generators at Shoreham to protect the public health and safety during low power operation. During Phases I and II, absolutely no AC power is needed to ensure that the plant is safe. During

^{14/} The low power testing program will take at least two to three months to complete. Any delays encountered during the testing sequence will necessarily expand this schedule.

Phases III and IV, only a highly unlikely loss of coolant accident requires AC power in less than a day. And even then, substantially more time would be available than necessary to restore power in the worst case.

Elimination of unnecessary regulations has been a prominent goal of the NRC in recent years:

We are determined to make the regulatory process efficient. Unnecessary regulatory burdens on licensees must be avoided and, wherever possible, we must allow the licensees to choose the least costly way to satisfy a safety requirement. We have taken strong measures to bring control to the issuance of new requirements. We want to be sure that, in the future, any requirements laid on nuclear operations produce a genuine net benefit to the public.

Nunzio J. Palladino, February 1982.^{15/} Indeed, in 1981, the NRC created the Committee to Review Generic Requirements (CRGR), in part, to control unnecessary requirements:

The CRGR will develop means for controlling the number and nature of the requirements placed by NRC on reactor licensees. The objectives of these controls are to eliminate the unnecessary burdens placed on reactor licensees, reduce the exposure of workers to

^{15/} "The Nuclear Option in our Energy Future," Remarks by Nunzio J. Palladino at the 1982 Wyoming Energy Conference, Casper, Wyoming, Feb. 17, 1982, reprinted in 2 NRC News Releases No. 8, for week ending March 2, 1982.

radiation in implementing some of these requirements, and conserve NRC resources while at the same time not reducing the levels of protection of public health and safety. The controls should make sure that requirements issued (a) do in fact contribute effectively and significantly to the health and safety of the public, and (b) do lead to utilization of both NRC and license resources in as optimal a fashion as possible in the overall achievement of protection of public health and safety.

CRGR Charter and Operating Procedures, December 30, 1981, at 1. Since literal compliance with GDC 17 is not needed to protect the public during low power operations, the exemption requested by LILCO will further the NRC's policy of eliminating unnecessary requirements.

Granting the exemption will also resolve the internal inconsistency between the Commission's regulation promoting low power licensing and the now-mandated inflexibility of GDC 17. The exemption will vindicate the Commission's intent to allow, in appropriate circumstances, interim low power licensing in advance of the completion of full power licensing hearings. This intent is reflected both in the language of 10 CFR § 50.57(c) and in its previous application. E.g., Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-3, 15 NRC 61, 188-90 (1982); Pacific Gas and Electric Co. (Diablo Canyon Nuclear Plant, Units 1 and 2),

LBP-81-21, 14 NRC 107, 121-23 (1981); Duquesne Light Co. (Beaver Valley Power Station, Unit No. 1), LBP-76-3, 3 NRC 44 (1976); see also Pacific Gas and Electric Co. (Diablo Canyon Nuclear Plant, Units 1 and 2), CLI-83-27, 18 NRC 1146 (1983). Thus, as a matter of legislative discretion, the Commission should harmonize its regulations and recognize the benefits of interim low power licensing by granting the exemption in question.^{16/}

6. Good Faith

LILCO's strenuous efforts to comply with GDC 17 also weigh in favor of the exemption. As the record reflects, LILCO has attempted to meet GDC 17 through installation of three TDI

^{16/} Although LILCO has applied for an exemption, rulemaking would also be appropriate here. In emergency planning, when the Commission determined that its regulations were unnecessarily stringent for low power operation, the regulations were amended to eliminate the need for an offsite emergency plan for low power conditions. Similarly, compliance with the literal terms of GDC 17 for both an offsite and onsite power source is not necessary to protect the public health and safety during low power operation. Thus, the Commission would be justified in reducing GDC 17's requirements in a manner akin to 10 CFR § 50.47(d)'s reduction of emergency planning requirements. Such a rulemaking might be particularly appropriate in light of the number of plants with TDI diesel generators that are approaching fuel load. Moreover, a rulemaking of this sort would also be consistent with the intent of § 50.57(c).

diesel generators as a qualified onsite power source. Those machines have been installed. It is only because of problems arising during preoperational tests that they have not yet been licensed. Indeed, two of the three TDI diesels have successfully completed their preoperational testing. Only one is necessary to power emergency loads in the event of a postulated accident at less than 5% power.

LILCO's efforts to comply with the literal requirements of GDC 17 have not stopped with preoperational testing of the TDI diesels. A massive design review and quality revalidation (DRQR) program has been undertaken at considerable expense to LILCO. That DRQR program has resulted in a review of a large number of diesel generator components to assure their reliability.

Equally important, LILCO has committed to the acquisition of three new diesel generators manufactured by Colt Industries at a cost of approximately \$100 million. Physical modifications at the plant to accommodate the Colt diesels have begun and installation and testing are expected to be completed by mid-1985. In short, the exemption sought is only on an interim basis for low power testing. LILCO has undertaken a massive and costly effort to ensure that the literal

requirements of GDC 17 will be fully met -- indeed, exceeded -- by the time of full power operation.^{17/}

7. Public Interest in Strict Compliance

Moreover, as discussed earlier, the minimal public interest in strict adherence to GDC 17 in these circumstances and the nominal safety significance of the requested exemption militate in favor of granting LILCO's application. While GDC 17 undoubtedly fulfills an important function for full power operation, its purposes will be otherwise met for the testing proposed by LILCO. In order to obtain the exemption, LILCO must and will prove that the public will not be endangered by low power operation pursuant to the exemption. Indeed, the NRC Staff has already so found in its Safety Evaluation Report. Given this assurance of protection, there is no public interest in adherence to the literal requirements of GDC 17 for the activities in question.

^{17/} The Company's good faith is also evident in its efforts to enhance its offsite power sources with a 20 MW gas turbine and four 2.5 MW GM EMD diesels, even though power from existing sources such as the Holtsville facility is available in a very short period of time.

8. Training Benefits

Finally, substantial training and testing benefits will accrue from the low power testing program proposed. For example, Phase I alone includes water chemistry surveillance testing, control rod drive stroke time and friction testing, installation, calibration and use of special start-up neutron instrumentation and core verification instrument operability testing. Valuable experience is gained by personnel assigned to the Reactor Engineering Section, Radiochemistry Section, Operating Section, Maintenance Section and Instrumentation and Control Section. Notaro Affidavit at ¶¶ 6, 7. During Phase II, the effectiveness of each of the 137 control rods in controlling reactivity is measured. Forty-one reactor and support systems are placed in service, operated and tested. Overall, approximately 5,000 manhours of valuable training and experience take place during Phases I and II of low power testing. Notaro Affidavit at ¶ 11. Significantly, LILCO's Phase I and II program is designed to provide Shoreham's operating personnel with more BWR experience and training than would result from a conventional program. Id. at ¶¶ 7-9, 11, 24.

During Phases III and IV, plant staff will be required to place in service, operate, test and maintain 54 plant systems. Notaro Affidavit at ¶ 24. The activities include rod withdrawal sequences, testing and calibration of neutron monitoring instrumentation, gathering information concerning initial heat-up and operation of nuclear steam supply and power generation systems, initial operation of control systems, and much other work that cannot be undertaken prior to the heatup of the plant to rated temperatures and pressures. Notaro Affidavit at ¶¶ 12-24. Approximately 6,000 hours of experience will be gained during these phases. Id. at ¶ 24.

Authorizing low power testing at Shoreham to begin now provides the opportunity to conduct training more extensively than might otherwise be the case if full power operation were imminent. While the standard low power testing program would undoubtedly provide sufficient training for LILCO's personnel, the additional training contemplated by the present proposal cannot help but enhance the safe operation of the plant.

III. CONCLUSION

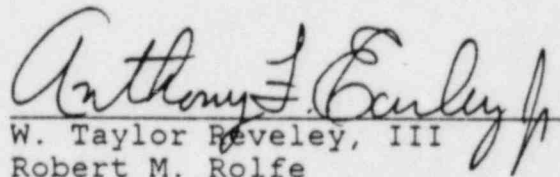
The Commission's Order of May 16 provided guidance for establishing a schedule leading to the resumption of hearings

in this matter. Thus, consistent with the Commission's guidance, LILCO asks the Board to set the following schedule for engaging LILCO's exemption request:

May 22	LILCO files exemption request
May 23	Discovery begins
June 22	Discovery ends
July 5	File testimony
July 16	Hearing begins

Respectfully submitted,

LONG ISLAND LIGHTING COMPANY



W. Taylor Reveley, III
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DATED: May 22, 1984

LILCO, May 22, 1984

CERTIFICATE OF SERVICE

In the Matter of
LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station, Unit 1)
Docket No. 50-322-OL-4
(Low Power)

I hereby certify that copies of Application for Exemption were served this date upon the following by first-class mail, postage prepaid, by hand, as indicated by an asterisk, or by Federal Express, as indicated by two asterisks.

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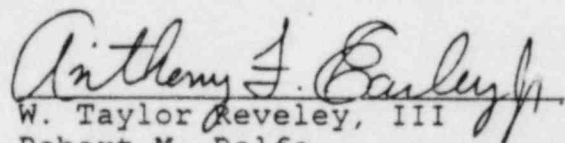
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