



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

Ms. Linda G. Holmes  
30 Dinah Rock Road  
Shelter Island, New York 11964

Dear Ms. Holmes:

I have been asked to respond to your letter to Chairman Carr dated January 9, 1990. As an enclosure, you provided a copy of your editorial that appeared in the Long Island edition of The New York Times.

As you may know, the Commission granted a full-power operating license for the Shoreham plant on April 20, 1989. It was granted based, in part, on thousands of inspection hours expended by our staff, as well as on evaluations of emergency preparedness performed by us and the Federal Emergency Management Agency (FEMA) staff. In addition, I have personally inspected the facility and the local areas to gain firsthand knowledge before I made my recommendations regarding the license. Enclosed is a copy of my findings dealing with emergency preparedness at Shoreham.

I can assure you that the staff will continue to monitor and verify the continuing regulatory compliance of the licensee of the Shoreham facility.

Sincerely,

A handwritten signature in cursive script, appearing to read "T. Murley".

Thomas E. Murley, Director  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

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PDR ADOCK 05000322  
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JAN 29 1990

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DISTRIBUTION

Docket File (50-322)	NRC PDR
Local PDR	EDO #0005066
EDO Reading	TMurley
JSniezek	JPartlow
PDI-2 Reading (w/cy of incom.)	SVarga
BBoger	OGC
SECY (#90-0049)	JTaylor
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DMossburg, PMAS (EDO#-0005066) w/cy of incoming	SBrown w/cy of incoming
Beverly Clayton	ETrottier
CShiraki	MO'Brien
WButler	

Previously concurred\*

[HOLMES LETTER]

WB for			
PDI-2/PM*	PDI-2/D*	Tech Editor*	ADRI*
ETrottier:mj	WButler	BCAlure	BBoger
01/23/90	01/23/90	01/23/90	01/24/90

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SVarga  
01/24/90

SV for	
ADP *	<i>WRR</i>
JPartlow	TMurley
01/24/90	1/24/90

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[HOLMES LETTER]

*(fwd)* PDI-2/PM  
ETrottier:mj  
1/23/90

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WButler  
1/23/90

Tech Editor  
*Blalock*  
1/23/90

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DRP  
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1/24/90

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JPartlow  
1/24/90

DONRR  
TMurley  
1/19/90



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ADP *	DMRR
JPartlow	TMurley
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ENCLOSURE 1

DIRECTOR'S FINDINGS REGARDING SHOREHAM EMERGENCY PREPAREDNESS

The issuance of a full power operating license requires a finding by NRC that there is reasonable assurance the activities to be authorized by the issuance of an operating license can be conducted without endangering the health and safety of the public. In reaching this overall safety conclusion the NRC must make a related finding of reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. The following discussion outlines the NRC staff's conclusions regarding emergency preparedness at Shoreham.

In order to place in perspective the safety finding that must be made regarding emergency planning, it is first useful to describe how emergency planning fits into NRC's regulatory fabric.

The accident at Three Mile Island Unit 2 in 1979 taught an important lesson regarding emergency preparedness. It is essential that local emergency decision-makers have a range of options for protective actions and that they do not have to rely on an ad hoc response to an emergency. Thus, in the wake of the TMI-2 accident NRC amended its regulations to improve emergency preparedness and thereby strengthen the defense-in-depth safety philosophy.

Under this guiding philosophy the first level of safety is that NRC requires high quality in the design, materials, construction and operation of the plants, in order to reduce the chances of equipment malfunctions or human errors that could lead to an accident.

The second level of safety is to assume that there can be failures of equipment or human errors nonetheless, and to require safety systems that terminate the nuclear chain reaction and maintain fuel cooling after shutdown.

The third level of safety is to postulate that fuel damage accidents can happen, in spite of the attention given to levels one and two, and to require a containment structure with associated safety systems to prevent the release of radioactivity to the environment.

Through the emergency preparedness regulations NRC in effect added a fourth level of safety by postulating the possibility of offsite radioactive releases and requiring that there be protective action options for local authorities to take to reduce the dose to the population living in the vicinity of nuclear power plants in the event of a radiological emergency.

Emergency preparedness can, therefore, be viewed as the last in a series of four levels in the defense-in-depth safety philosophy guiding NRC's regulations to protect the public. Our regulations do not require perfection in emergency



planning. In fact, it is not possible to guarantee that emergency preparedness actions will protect all the people in the vicinity of a nuclear plant under all accident conditions and in all weather conditions. Our regulations recognize these practical limitations and require only that there be reasonable assurance that protective actions can and will be taken in the event of a radiological emergency. We recognize that emergency planning is a dynamic process, that perfection is not attainable, that deficiencies will occur from time to time, and that deficiencies in emergency plans can be corrected when they appear.

Turning now to Shoreham, a comparison of the geography of the Shoreham site with other nuclear plant sites leads to the conclusion that the Shoreham site compares favorably with other sites in the U.S. from an emergency planning standpoint. The plant is located on a flat coastal plain, without complex terrain to complicate predictions of plume trajectory, in contrast with other sites set in hilly areas or in river valleys that present more difficult geographic conditions. The road system around Shoreham also compares favorably with other coastal sites having similar populations within the EPZ. There is a well-developed transportation network within the EPZ, with several major highways traversing the EPZ in both the east-west and north-south directions, thus making evacuation planning relatively straightforward. With regard to demographics, several nuclear sites in the U.S. have greater populations within the ten mile EPZ than does Shoreham.

Regarding weather, winters are less severe than at many other sites in the U.S. because of the moderating effect of Shoreham being a coastal site. Since heavy snows are relatively uncommon and the surrounding terrain is generally flat, impediments to evacuation should occur relatively infrequently at the site. Like other sites along the Atlantic coast, Shoreham is subject to hurricanes. The plant will be required by license condition to shut down in the event of an approaching hurricane. Hence, it is concluded that there are no unique features of the Shoreham site that render emergency planning fundamentally more difficult than for other nuclear sites in the U.S.

A unique aspect of emergency planning at Shoreham, of course, is that New York and Suffolk County have refused to participate in offsite emergency planning at Shoreham. This circumstance raises questions whether an effective emergency plan can be developed and whether the plan can be executed effectively.

LILCO has developed the Local Offsite Radiological Emergency Response Plan, which is implemented by the Local Emergency Response Organization (LERO) for the Shoreham site. LERO is comprised of LILCO and contractor personnel with support from organizations such as the U.S. Department of Energy (DOE) located at Brookhaven National Laboratory (BNL) within the 10-mile EPZ. DOE is an integral part of LERO, with responsibilities for radiological monitoring and dose assessment. FEMA in coordination with NRC, has reviewed extensively the LERO plan and has found it to be a comprehensive, well integrated approach to emergency planning at the Shoreham site because:

- ° It is well organized and complete.

- ° The required LERO staff under the plan is rostered at 150 per cent of expected needs.
- ° Adequate facilities and equipment are identified and provided.
- ° All supervisory positions in the LERO plan are filled with supervisors or managers in LILCO, who are reachable by pager for rapid response.
- ° LILCO employees and contractors fill all emergency response positions, and the utility therefore has the ability to assure that needed training occurs.
- ° The training program for offsite response is comprehensive, and quarterly training drills are being done and will be required by license conditions.
- ° The LERO plan was extensively litigated during the hearing process, was closely reviewed by FEMA's Interagency Regional Assistance Committee and has been found acceptable by FEMA.
- ° The LERO plan has provisions to evacuate the families of LERO emergency workers in order to relieve those workers of potential conflicting concerns between protecting their families and meeting their responsibilities under the plan.

For the reasons above it is concluded that the LERO plan compares favorably with the emergency plans for many other sites in the U.S., which typically rely on volunteers for many local response functions during an emergency.

With regard to the question of whether the LERO plan can be executed effectively, the staff assumes that State and local authorities will use their best efforts to protect the health and safety of the public in the event of an emergency at Shoreham and that, absent a superior emergency plan, they will follow the LERO plan. Further, staff review indicates that State and local resources are adequate and available to support implementation of the LERO plan. There remains the question, however, that if State and local authorities do not participate in preparing and exercising the LERO plan, can eleventh hour participation by the State and County in an actual emergency be effective in achieving the goal of dose savings for the population in the vicinity of Shoreham?

While it would be clearly preferable for the State and County to participate in planning and exercises, the LERO plan is written to accommodate State and County response at the eleventh hour. LERO officials would activate the LERO Emergency Operations Center (EOC) at the Brentwood District Office at the Alert stage of an emergency, where they would set up the ~~the~~ command, control, and communications center. There will be a designated LERO worker around the clock at the EOC, by license condition, to ensure the ~~logistical~~ logistical arrangements at the EOC can be made with no undue delays. If County officials choose to operate from the LERO EOC, there are space, facilities and information to enable them to function effectively. If, on the other hand, County officials choose to operate from the Suffolk County EOC, a designated LERO official will be available to provide full communication between the County officials at the



County EOC and the LERO emergency managers at the LERO EOC. A license condition requiring that a designated LERO official be dispatched automatically at the Alert stage to the County EOC with appropriate information and equipment will assure prompt establishment of communications.

Outside the EOC activities, LERO personnel would be dispatched to their offsite plan positions. If State or County authorities arrive, the LERO responder is trained to explain the function of the position to the individual with authority, and the LERO responder then either assists or relinquishes control as the situation dictates. LERO personnel are trained in the use of dosimetry and radiological precautions and will provide dosimetry coverage and protective advice to responding State or County representatives. The presence of these trained LERO individuals at the various response locations will be available to provide direct support and should result in enhanced performance of State and local authorities in their emergency response duties.

New York State has a well-developed State emergency plan, has participated in numerous exercises with the other nuclear power plants in New York and has always performed competently. The LERO plan was developed to be compatible with the New York State Plan, and the staff finds no serious impediments to implementing the LERO plan at the State level. Furthermore, although the State and County may not have formally participated in planning, some key officials are in fact very familiar with the LERO plan. They have reviewed, commented upon and participated in the litigation of many issues concerning the LERO plan.

Therefore it is concluded, while acknowledging it would be clearly preferable for the State and County to participate in planning and in exercises, that the comprehensive LERO plan and the demonstrated ability of LERO to rapidly mobilize well-trained personnel provides assurance of effective emergency response actions even in the event of eleventh hour participation by State and County authorities in an actual emergency at Shoreham.

The adequacy of the LERO plan was tested in a February 13, 1986, exercise and most recently in a June 7-9, 1988, exercise. FEMA has advised NRC that the June 1988 exercise demonstrated adequate overall preparedness on the part of LERO personnel. Based on their review of the LERO plan as well as the June 1988 exercise results, FEMA reached an overall finding of adequacy regarding Shoreham offsite emergency preparedness.

With respect to onsite emergency preparedness the NRC staff has observed onsite drills and exercises at Shoreham and has conducted inspections of LILCO's onsite emergency preparedness program. The staff concludes that the onsite plan is adequate and that there is reasonable assurance that it can and will be implemented in the event of an emergency at Shoreham.

In addition to the broad issues discussed above, there are a number of outstanding emergency planning contentions that have arisen in the Shoreham hearings. Each of these contentions has been reviewed and has been found to be satisfactorily resolved. The evaluation of each contention is documented in a Director's Findings report which has been provided to the Commission.



In summary, the following conclusions have been reached:

1. The Shoreham site compares favorably with other nuclear plant sites in the U.S. There are no unique features of the site that render emergency planning at Shoreham fundamentally more difficult than for other nuclear sites.
2. The Shoreham offsite emergency plan as implemented by LERO results in a response capability that is equivalent to or better than the response capability for many other sites in the U.S.
3. Because of the thoroughness of the LERO plan and the demonstrated ability of LERO to rapidly mobilize well trained personnel, effective emergency response actions can and will be taken in conjunction with the best efforts of State and County emergency response organizations.
4. The LERO plan has been found by FEMA to be adequate based on a thorough review of the plan as well as an evaluation of a full-participation exercise at Shoreham on June 7-9, 1988.
5. Each of the outstanding emergency planning contentions has been satisfactorily resolved.

It is concluded, therefore, that there is reasonable assurance that adequate protective actions can and will be taken in the event of a radiological emergency at Shoreham.



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NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

**ACTION**

EDO Principal Correspondence Control

FROM: Linda G. Holmes  
Shelter Island, New York

DUE: 01/31/90

EDO CONTROL: 0005066  
DOC DT: 01/09/90  
FINAL REPLY:

TO: Chairman Carr

FOR SIGNATURE OF: \*\* GRN \*\* CRC NO: 90-0049

Murley

DESC:

FORWARDS NEWS ARTICLE CONCERNING THE SAFETY AND  
EVACUATION PLANS FOR SHOREHAM

ROUTING:

Russell, RI

DATE: 01/17/90

ASSIGNED TO: NRR CONTACT: Murley

SPECIAL INSTRUCTIONS OR REMARKS:

NRR RECEIVED: JAN. 17, 1990  
ACTION: DRPR:VARGA

NRR ROUTING: MURLEY/SNIEZEK  
PARTLOW  
MIRAGLIA  
CRUTCHFIELD  
GILLESPIE  
MOSSBURG

*Due NRR 1/26*





## LONG ISLAND OPINION

# Shoreham: A Bad Idea That Won't Go Away

By LINDA GOETZ HOLMES

**L**ONG ISLANDERS who opposed the operation of Long Island Lighting Company's nuclear plant at Shoreham have been taken to task several times during the last year in the pages of newspapers.

We have been told that scrapping Shoreham is folly, that our fears of unsafe operation and evacuation problems are exaggerated and that the plant is not unsafe. The decommissioning of Shoreham, now under way, was termed vindictive by White House Chief of Staff John Sununu, who suggested that Shoreham be mothballed instead, a view supported by Federal energy officials. And some members of Congress see the abandonment of Shoreham as a senseless waste of taxpayers' money.

However, two key factors about Shoreham are consistently being overlooked by our critics. First, consideration of evacuation plans has come at the end of the licensing process because of a ruling by Atomic Energy Commission officials, not as a last-ditch effort by Shoreham opponents.

Second, public fears about the safety of Shoreham and the increased likelihood of an

*Linda Goetz Holmes is a former member of the Shelter Island Town Planning Board.*

accident were fueled primarily by the disclosures of experts involved in construction of the plant, not by our wild speculations.

The Atomic Energy Commission (predecessor to the Nuclear Regulatory Commission) conducted public hearings on Shoreham when the plant was still in its blueprint stage in the early 1970's. Suffolk County was represented at those hearings by Irving Like, a lawyer and now a trustee of the Long Island Power Authority.

It is a matter of public record that Mr. Like raised the question of feasible evacuation procedures at that time, but the A.E.C. responded that it would not consider that subject until after the plant was built. To me, this decision by the A.E.C. was the truly historic folly. There Shoreham stands: a billion-dollar monument to unresolved questions.

As a taxpayer, I share the dismay expressed by some members of Congress, but all Federal agencies exist with our taxes; and when they blunder, we all pay.

In May 1976, at a meeting in Riverhead (about 16 miles east of Shoreham), Dale Bridenbaugh, a former engineer for General Electric (which sold the core containment system to LILCO for installation at Shoreham), told a capacity crowd that the system had design defects which could lead to a steam explosion or a fuel meltdown. Three years later, we had Three Mile Island. Is it any wonder that some Long Island residents

## Three Mile Island and Chernobyl are always on our minds.

are afraid of Shoreham?

Around the time Mr. Bridenbaugh made his public comments, a local newspaper printed a series of articles based on documents obtained from an engineer who had quit the Shoreham project, taken his notes to the Southold town dump, and phoned a reporter, who retrieved them.

Some East End residents found the engineer's notes hard to forget: they described pipes installed upside down, cracks being covered over, and other uncorrected construction errors. Subsequent reassurances from LILCO have simply been impossible for many of us to accept.

The realities of Three Mile Island and Chernobyl are what really haunts us, not our exaggerated fears of the unknown.

Anyone who lives on eastern Long Island is painfully aware that most of us have just two options for immediate travel in the event of a nuclear mishap: by land, past Shoreham, or

by boat — if it's summertime and enough vessels are in the water.

At least the people near Three Mile Island had seven escape routes, all leading away from the plant. Eastern Long Islanders do not have that luxury, and we know it.

In 1981, I was seated on a plane next to an employee of the Brookhaven National Laboratories (Shoreham is part of the Town of Brookhaven).

She told me how, in the wake of Three Mile Island, the management at Brookhaven Labs had decided to conduct an evacuation drill. "I'm still shaking," she said. "I am usually home from work in 30 minutes. The day of the drill, it took me 20 minutes just to get out of the parking lot. My knuckles were white, gripping the steering wheel, as I wondered what it would be like if this were real."

No press releases were issued about that drill, and according to my travel companion, Brookhaven lab employees were instructed not to discuss it.

Sure I'm upset at the thought of guaranteed annual hikes in my electricity bills for the next 10 years; I'm still reeling from a 29 percent increase in this year's local taxes.

It's bizarre that higher utility rates suddenly seem like the lesser of two evils. In fact, the Shoreham situation is beginning to remind me of the old comedy routine:

"Why do you let them hit you on the head?"

"It feels so good when they stop." ■