



## LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

Direct Dial Number

February 3, 1983

SNRC-830

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

SER Open Issue No. I.C.7, NSSS Vendor Review of Procedures  
Shoreham Nuclear Power Station - Unit 1  
Docket No. 50-322

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References: 1. LILCO letter SNRC-738, (J. L. Smith) to the NRC  
(H. R. Denton), dated July 26, 1982.  
2. LILCO letter SNRC-770 (J. L. Smith) to the NRC  
(H. R. Denton), dated September 16, 1983.

Dear Mr. Denton:

In accordance with the agreement reached during the January 17, 1983 telephone conversation between E. J. Weinkam and J. Clifford of the Nuclear Regulatory Commission and R. W. Grunseich of Long Island Lighting Company, this letter submits the NSSS vendor's (General Electric) comments to the Shoreham Emergency Procedures and LILCO's disposition thereof. Attachment I presents the definition of the three categories that General Electric used to prioritize their comments. Attachment II provides the dispositioning of the comments to the Emergency Procedures.

As stated in reference 1, the vendor review of the low power and power ascension test program is an ongoing task and is accomplished by having the Site Operations Manager of the General Electric Company, the NSSS vendor, review and approve the procedures for this program. His approval is required by the station procedure administering the Startup Testing Program prior to the release for performance of any NSSS startup test procedure. It is LILCO's understanding that the NSSS vendor on site review of the low power and power ascension test program is acceptable to the NRC. LILCO believes that this submittal, in conjunction with references 1 and 2, should enable the NRC to completely close out SER open issue I.C.7 on the Shoreham docket.

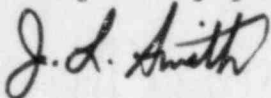
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Should you have any questions or require further information,  
please contact this office.

Very truly yours,

A handwritten signature in dark ink, appearing to read "J. L. Smith". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

J. L. Smith  
Manager, Special Projects  
Shoreham Nuclear Power Station

RT:spg/law

Attachments

cc: J. Higgins, Site NRC  
All Parties

## ATTACHMENT I

General Electric's definition of Categories used to prioritize their comments on the Shoreham Emergency Procedures.

<u>Category</u>	<u>Description</u>
1.	An opinion offered for information purposes only; the utility should consider taking action consistent with the reviewer's recommendation if such action is not inconsistent with the general practices followed by the utility. Generally, these comments have little or no implication as to the procedure's technical compliance with the BWR Emergency Procedure Guidelines (EPG).
2.	Comments which bear (directly or indirectly) on the procedure's technical compliance with the EPGs, or identify an unnecessarily restrictive interpretation of the EPGs. G.E. recommends that action should be taken consistent with the recommendation; however, failure to incorporate the reviewer's recommendations would not adversely affect safety of operation.
3.	Comments which identify questionable implementation of the EPGs which could result in inadequate guidance being given to the operator. Failure to incorporate the comment/recommendation could, in the opinion of the reviewer, diminish the associated procedure's technical adequacy.

ATTACHMENT II

LILCO Dispositioning of The NSSS vendor comments on the Shoreham Emergency Procedures.

LEVEL CONTROL (29.023.01 REVISION F)

1. PAGE 1, SECTION 3.0

CATEGORY I

Vendor Comment:

- A. Substep 3.1.4 lists setpoints for D/G starting conditions. Isn't bus undervoltage also applicable?
- B. It is assumed that the reference to mode switch position (EPG step LC-2.3) is contained in SP29.010.01).
- C. As a suggestion in substeps 3.1.2 and 3.1.3 the items covered in Technical Specifications could be listed here, included at the end of the procedure, or listed on the opposite page to reduce the need to refer to separate references.

LILCO RESPONSE:

- A. Loss of bus voltage was included in substep 3.1.4.
- B. The mode switch position is contained in SP 29.010.01.
- C. It would be redundant to place technical specifications in the back of Emergency Procedures. This item was not incorporated.

2. PAGE 2, STEP 3.2

CATEGORY II

Vendor Comment:

The note's reference to the "minimum number of systems" should not be misconstrued by the operator to mean "one and only one".

LILCO RESPONSE:

This comment was covered by training.

3. PAGE 2, STEP 3.3

CATEGORY I

Vendor Comment:

"TAF" and "top of active fuel" are both used in this step. Why not use the same term in all cases for consistency? (Only "TAF" was used in Step 3.4).

LILCO RESPONSE:

This comment was incorporated.

4. PAGE 3, STEP 3.5

CATEGORY I

Vendor Comment:

This step is a carryover from other NTOL procedures, not from the EPG.

LILCO RESPONSE:

This step is required for the Emergency Plan.

5. PAGE 3, STEP 3.6

CATEGORY II

Vendor Comment:

This also is from other NTOL procedures, not from the EPG. EPG Caution #1 removes the necessity of this step, but more significantly, water level does not necessarily have to be above 12.5" to proceed to other station procedures. This is therefore a more conservative (restrictive) step than the EPG intended.

It is not a requirement to reference all level indications to the same point? Has this been done at Shoreham?

LILCO RESPONSE:

This comment was incorporated.

6. PAGE 3, STEP 3.7

CATEGORY II

Vendor Comment:

The EPG do not require a definite control band and would say only "..... reduce RPV pressure to below 960 psig." This was to permit one sustained blowdown, then move to depressurization and cooldown steps in the cooldown procedure. The intention to maintain a tight, strictly controlled pressure band, which might lead to excessive SRV manipulations and would increase the possibility of an SORV.

LILCO RESPONSE

This comment was noted and addressed during operator training.

7. PAGE 2, STEP 3.1

CATEGORY II

Vendor Comments:

The previous comment about "the minimum number of systems" is also applicable here. It is not a requirement to reference all level indications to the same point? Has this been done at Shoreham?

LILCO RESPONSE:

This comment was covered during the training lecture. Also, it is a requirement to reference all level indicators to the same point. When it has been accomplished, the procedures will be changed to reflect the new scale.

8. PAGE 3, STEP 3.4

CATEGORY II

Vendor Comments:

The previous comment about the pressure band is also applicable here.

LILCO RESPONSE:

This comment was noted and was addressed during operator training.

9. PAGE 5, STEP 3.6.1

CATEGORY I

Vendor Comments:

"Removal" should be "Reactor".

LILCO RESPONSE:

This comment was incorporated.

10. PAGE 6, STEP 3.6.4

CATEGORY II

Vendor Comments:

Steam condensing can also be added if desired. If used here, the caution pertaining to suppression pool temperature and the availability of both RHR loops should also be used.

As minor points, the words "use of one or more of the following systems" are superfluous and could be deleted, and in the caution pertaining to suppression pool temperature and the availability of both RHR loops should also be used.

As minor points, the words "use of one or more of the following systems" are superfluous and could be deleted, and in the caution, the IF not THEN statement margins should be aligned.

LILCO RESPONSE:

Steam condensing mode was added to the systems available for use. However, use of the steam condensing mode of the RHR system has now been restricted to SP 29.015.02 (loss of all A.C. power) until such time as the condensation reflood and suppression pool submerged structure loads associated with the RHR Heat Exchanger relief valve actuation can be shown to be of no concern.

11. PAGE 6, STEP 3.7

CATEGORY II

Vendor Comments:

If it is desired to use setpoints instead of only saying shutdown cooling interlocks, should not all setpoints be used? For example, will not LL3 also prevent going into shutdown cooling?

LILCO RESPONSE:

This comment was incorporated.

12. PAGE 8, STEP 3.9.2

CATEGORY II

Vendor Comments:

HPCI and RCIC isolation valves should also be shut at this point.

LILCO RESPONSE:

This comment was incorporated.

13. PAGE 8, STEP 3.9.3

CATEGORY II

Vendor Comments:

EPG wording "Place the control switch for one SRV in the open position", would be preferred. The present Shoreham wording would tell the operator to shut SRVs even if they had opened on pressure or safety relief.

LILCO RESPONSE:

This comment was incorporated.

14. PAGE 3, STEP 3.1.5

CATEGORY II

Vendor Comments:

The proper term is "heat capacity temperature limit" not "heat capacity limit". This could be abbreviated as HCTL if desired.



Figure 1, the HCTL, should appear here. The preferred location would be on the back of Page 2, facing the step that references it.

LILCO RESPONSE:

Comment 1 was incorporated.

Comment 2 was noted. The graphs will remain in the back of the procedure.

15. PAGE 3, STEP 3.1.6

CATEGORY II

Vendor Comments:

It is highly recommended to replace the existing "Then" portion of this step with the first two steps (3.1 and 3.2) of the Rapid (RPV) Depressurization procedure (20.023.05). Then, if less than 3 SRVs can be opened, procedure 29.023.05 can be used.

LILCO RESPONSE:

This comment was incorporated.

16. PAGE 4, SECTION 3.2

CATEGORY II

Vendor Comments:

It is not apparent from this procedure how EPG Caution #6 is being handled.

LILCO RESPONSE:

EPG Caution #6 has been added to the procedure.

17. PAGE 4, CAUTIONS on depressurization and cooldown.

CATEGORY II

Vendor Comments:

These cautions are not really needed here unless comment #15 is incorporated.

LILCO RESPONSE:

This comment was incorporated.

18. PAGE 5, STEP 3.2.3

CATEGORY II

Vendor Comment:

As mentioned before the figure should be included here, preferably on the opposite or facing page, and could be abbreviated, in this case, as RPVSL.



Comment #15 also applies here to the use of the Rapid RPV Depressurization Procedure.

In the "If" part of this step, "drywell temperature" should be "temperature near the cold reference leg instrument vertical runs".

LILCO RESPONSE:

The graphs are maintained in the back of the procedure. (They will also be displayed on the permanent SPDS). Comment #15 and the third part of this comment were incorporated.

19. PAGE 6, STEP 3.3.3 AND 3.3.4

CATEGORY II

Vendor Comments:

While the reference to sampling is a good idea and consistent with EPG intentions, it must be remembered that it is conceivable that a release might be necessary even though release limits may be exceeded. For example, if the PCPL is exceeded (which implies that containment rupture is imminent) and there is no other means of reducing containment pressure, it is infinitely preferable to vent (and release a small fraction of the activity in the containment) as opposed to not venting (and allowing the containment to rupture, thereby releasing all activity within the containment).

LILCO RESPONSE:

This comment was not a comment against the procedure.

20. PAGE 8, STEP 3.4.2

Vendor Comments:

It may be possible to delete this step if the referenced SP (later) mentioned in the right hand column deals with initiating makeup. The existing right hand column could then be included in step 3.4.1.

LILCO RESPONSE:

The step was not deleted.

21. PAGE 8, CAUTIONS on depressurization  
and cooldown rate

CATEGORY II

Vendor Comments:

Comment #17 is also applicable here.

LILCO RESPONSE:

This comment was incorporated.

22. PAGE 8, STEP 3.4.3

CATEGORY II

Vendor Comments:

Previous comments are applicable here concerning the HCIL and the use of the Rapid Depressurization procedure.

LILCO RESPONSE:

This comment was incorporated.

23. PAGE 9, STEP 3.4.5

CATEGORY II

Vendor Comments:

The "if" portion of this step should read "If Suppression Pool water level cannot be maintained below 26'8" AND .....".

LILCO RESPONSE:

This comment was incorporated.

24. PAGE 9, STEPS 3.4.6 and 3.4.7

CATEGORY II

Vendor Comments:

A comment about meeting discharge limits is applicable here.

The ultimate concern is containment integrity with the SPLL being the threatening or limiting item.

It would be a good idea to give the numerical limits or a reference in the right hand column in step 3.4.6.

LILCO RESPONSE:

This comment was noted, but not incorporated.

LEVEL RESTORATION (29.023.04 REVISION F)

25. PAGE 1, STEP 2.0

CATEGORY II

Vendor Comments:

This procedure is also entered if water level cannot be determined (when directed at the appropriate points in Level Control of Cocldown).

LILCO RESPONSE:

This comment was incorporated.

26. PAGE 3, STEP 3.3.3

CATEGORY II

Vendor Comments:

This step should read "If any system, or any normal injection subsystem, or any alternate injection subsystem.....".

The "Then" part of this step should be changed, as mentioned before, to include steps 3.1 and 3.2 of the Rapid RPV Depressurization procedure here, and then use procedure 29.023.05 in case less than 3 SRVs can be opened.

LILCO RESPONSE:

The first part of this comment was noted but not incorporated. The second part of the comment was incorporated.

27. PAGE 3, STEP 3.4

CATEGORY II

Vendor Comments:

EPG Revision 1B states that the operator should also return to this step if the pressure trend reverses.

LILCO RESPONSE:

This comment was incorporated.

28. PAGE 4, STEP 3.5.1

CATEGORY I

Vendor Comments:

A minor inconsistency is the use of "enter" (as used here) and "proceed to" (as used in Level Control step 3.4) "Enter" is also used in step 3.9.3(E) on page 12 of Level Restoration.

LILCO RESPONSE:

This comment was noted, but not incorporated.

29. PAGE 5, STEP 3.6.1

CATEGORY II

Vendor Comments:

Previous comments concerning the implementation of the Rapid RPV Depressurization procedure are also applicable here.

LILCO RESPONSE:

This comment was incorporated.

30. PAGE 5, STEP 3.6.3

CATEGORY II

Vendor Comments:

In other sections the term "available" is used instead of "injecting". The meaning is not the same.

LILCO RESPONSE:

This comment was incorporated.

31. PAGE 6, STEP 3.7.1

CATEGORY II

Vendor Comments:

Previous comments concerning the implementation of the Rapid RPV Depressurization procedure are also applicable here.

LILCO RESPONSE:

This comment was incorporated.

32. PAGE 7, STEP 3.8.2

CATEGORY II

Vendor Comments:

Previous comments concerning the implementation of the Rapid RPV Depressurization procedure are also applicable here.

LILCO RESPONSE:

This comment was incorporated.

33. PAGE 9, STEP 3.8.6(A)

CATEGORY II

Vendor Comments:

Previous comments concerning the implementation of the Rapid RPV Depressurization procedure are also applicable here.

LILCO RESPONSE:

This comment was incorporated.

34. PAGE 9, STEP 3.8.6(B)

CATEGORY III

Vendor Comments:

The "later" here is not 2/3 core height.

LILCO RESPONSE:

This comment was incorporated.

35. PAGE 10, STEP 3.9.2

CATEGORY II

Vendor Comments:

Previous comments concerning the implementation of the Rapid RPV Depressurization procedure are also applicable here.

LILCO RESPONSE:

This comment was incorporated.

36. PAGE 11, CAUTION on cooldown rates

CATEGORY II

Vendor Comments:

This caution is applicable to step (B) as well as step (A).

LILCO RESPONSE:

This comment was incorporated.

37. PAGE 11, STEP 3.9.3(B)

CATEGORY II

Vendor Comment:

The wording here is inconsistent with Step 3.8.6(D) on page 9. This wording is used again in step 3.2 on page 2 of the Rapid RPV Depressurization procedure.

LILCO RESPONSE:

This comment was incorporated.

Vendor Comment:

In the EPG this was a contingency rather than a complete procedure. If Shoreham were to treat this similarly, the purpose and entry condition sections would not be needed.

Concerning the purpose statement (if it is desired to retain it); saying "The purpose of this procedure is to rapidly depressurize the RPV" should be sufficient. If, however, reasons are needed, there is another reason for rapidly depressurizing the RPV, and this is for containment protection as in the cases where rapid depressurization is required in containment control.

Concerning the entry conditions; these are very difficult to follow and could be confusing to the operator if he became involved in trying to determine if he met the proper entry condition before proceeding to the action steps of this procedure. This procedure would never be entered directly, but rather only as directed in other procedures (Containment Control, Level Restoration or Steam Cooling). He should be allowed to proceed directly to the action steps, when directed from the referencing procedure, without wasting time thumbing through entry conditions. Time is important in this case and should therefore not be wasted on preliminaries, but rather spent on necessities. This problem could be eliminated by (1) removing the purpose and entry condition sections from this procedure as mentioned above, or preferably by (2) restructuring this procedure as mentioned in previous comments; by including steps 3.1 and 3.2 of the depressurization procedure in whatever procedure at the point rapid depressurization is referenced and then use this procedure (29.023.05) in case less than 3 SRVs can be opened.

If the entry conditions are retained, they appear to contain several errors. Step 2.1 should include entry from Containment Control if the Pressure Suppression Limit is exceeded (Containment Control, page 7, step 3.3.7) or if the Suppression Pool Load Limit is exceeded (Containment Control, Page 10, Step 3.4.9). Step 2.2 should include entry from the steam cooling process (Level Restoration, Page 9, step 3.8.6.A). Finally, substeps 2.2.4, 2.2.5 and 2.2.6 do not appear to completely match the appropriate referencing step (Level Restoration, step 3.8.2, 3.8.4/3.8.5, and 3.9.2, respectively).

LILCO RESPONSE:

This comment was incorporated by including steps 3.1 and 3.2 of the depressurization procedure in the section rapid depressurization was referenced in all applicable procedures.



39. PAGE 3, STEP 3.3

CATEGORY II

Vendor Comments:

Steam Condensing could also be added to this list, if desired.

It should be remembered that the HPCI or RCIC steam lines could still be used to bleed steam to the suppression pool, even if the turbine/pump is inoperable.

LILCO RESPONSE:

Steam condensing mode was added to the systems available for use. However, use of the steam condensing mode of the RHR system has now been restricted to SP 29.015.02, (loss of all AC power) until such time as the condensation reflood and suppression pool submerged structure loads associated with the RHR heat exchange relief valve actuation can be shown to be of no concern.

RPV FLOODING (29.023.09 REVISION F)

40. PAGE 1, PURPOSE STATEMENT

CATEGORY II

Vendor Comment:

In addition to merely mentioning flooding the RPV, this procedure is also (1) intended to assure adequate core cooling by virtue of the flooding process; (2) used when RPV water level cannot be determined and/or (3) used to reduce containment pressure when the PSL is exceeded.

LILCO RESPONSE:

The purpose statement was changed to accommodate this comment.

41. PAGE 4, STEP 3.4

CATEGORY II

Vendor Comment:

Similar to previous comments, the PCPL should be placed on the facing page.

LILCO RESPONSE:

The graphs were retained in the back of the procedure.



42. PAGE 5, STEP 3.6

CATEGORY II

Vendor Comment:

The note used previously (Containment Control, Page 5, Note 3.2.3) concerning identification of D/W temperature elements should be used here also.

LILCO RESPONSE:

This comment was incorporated.

43. PAGE 5

CATEGORY II

Vendor Comment:

EPG Step C6-6.3 should be inserted between Steps 3.6 and 3.7.

LILCO RESPONSE:

This comment was noted, but not incorporated.

44. Vendor Comments:

CATEGORY II

With regard to the implementation of PG Cautions; it may be advisable to include on an addendum or, in some other form, a list of all general EPG Cautions at some point in the procedure package. It has been noted that all Cautions used in the EPG do not necessarily appear at precisely the same point in the Shoreham procedures. Some examples are Caution #9 on Page 2 of Cooldown, and #9 and 12 on pages 4 and 5 of Cooldown. While it is the utilities prerogative to implement Cautions in whatever manner they choose, the operator must be aware of the applicability of Cautions at the appropriate points.

LILCO RESPONSE:

The General EPG Cautions were covered in training.  
The second comment was noted, but not incorporated.

45. Vendor Comment:

CATEGORY III

Curves or limits detailed in EPG, Appendix B, Section 5 (such as the HCTL, HCLL, SPSL, PSL, RPVSL, SPL, etc.) must be generated and checked to be in accordance with Appendix B, Section 5. These calculations should be performed in accordance with most current available revision of the EPG Appendix. Similarly, the text of the procedures should be reviewed and revised as necessary to ensure compliance with the most current revisions of the EPG, consistent with the utilities licensing commitments.

LILCO RESPONSE:

This comment was incorporated.

46. Vendor Comment:

CATEGORY III

"Latens" such as those on page 9 of Level Restoration, page 4 of RPV Flooding, page 10 of Containment Control, etc., must be supplied.

LILCO RESPONSE:

This comment was incorporated.