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

OCT 3 1985

Docket Nos.: 50-498
and 50-499

APPLICANT: Houston Lignting and Power Company

FACILITY: South Texas Project, Units 1 & 2

SUBJECT: SUMMARY OF MEETING HELD ON SEPTEMBER 9 & 10, 1985 TO DISCUSS CONCERNS OF THE POWER SYSTEMS BRANCH (MECHANICAL)

A meeting was held to achieve closure of the open items remaining in the staff review in this area. The Meeting Notice (Enclosure 1) provides the background and agenda. The list of attendees is attached as Enclosure 2 for each day of the meeting. The applicant used draft copies of changes to FSAR section responses and changes to FSAR pages to elicit staff comments on proposed resolutions. Most of the open items were closed, as indicated below under discussion, with final actions on same items requiring additional commitments on the part of the applicant or consultation among the staff. A submittal reflecting the applicants commitments is expected in the near future.

Discussion

The items listed below correspond to those listed in the attachment to the Meeting Notice.

1. This item is closed with the applicants proposed modification to Q040.10. (Confirmation; procedures are in place by Region IV)

2. This item is closed because the applicant has committed to provide an acceptable communication system. (Confirmation; procedures are in place by Region IV)

3. This item is closed because the applicants proposed modification to the response to Q430.76N is acceptable. (Confirmation; procedures are in place by Region IV)

4. This item is closed because the applicant has committed to providing adequate lighting in vital areas.

5. This item is closed because the applicant has made satisfactory commitments.

6. This item is closed with the amplification and clarification provided.

7. This item is closed with the clarification provided.

8. This item is closed with the revised response to Q430.58N.

9. This item is closed with the revised response to Q430.28N.

10. This items is closed with the proposed revision to FSAR Section 9.5.5.6. (Confirmation; procedures are in place - by Region IV)

11. This item is closed with the revised response to Q430.102.

12 & 13. These items are closed with the revised response to Q430.24N.

14. Additional information, including a letter from the vendor, is required to confirm that excessive vibrations will not affect the diesel generator instruments.

15. This item is closed with the proposed revision to FSAR Section 9.5.4.1(5) and response to Q430.47N.

16. This item is closed with the proposed revision to FSAR Section 9.5.4.2.

17. This item is closed with the proposed revision to Section 9.5.4.3.

18. This item has been closed with the proposed revision to FSAR Section 9.5.4.4. (Confirmation; procedures are in place - Region IV)

19. This item is closed with the proposed revision to FSAR Section 9.5.4.4 and submittal of the consultant's letter on diesel fuel testing.

20. This item is closed with the proposed revision to FSAR Section 9.5.4.4 and submittal of the consultant's letter on diesel fuel testing.

21. This item is closed with the proposed revision to FSAR Section 9.5.4.3. (Confirmation; procedures are in place - by Region IV)

22. This item is closed because the staff has found that the applicant has considered maximum flood levels in a satisfactory manner.

23 & 24. These items are closed with the proposed revision to FSAR Section 9.5.4.3.

25. This item has been closed with the revised response to Q430.86N. (Confirmation; procedures are in place - by Region IV)

26. This item is closed with the proposed revision to FSAR Section 9.5.5.1.

27. This item is closed with the proposed revision to FSAR Section 9.5.5.4.

28. This item is closed with the revised response to Q430.91N.

29. This item is closed with the revised response to Q430.102.

30. This item is closed with the revisions to FSAR Section 9.5.6.1 and to the response to Q430.47N.

31. This item is closed with the revision to FSAR Section 9.5.6.5.

32. This item is closed with the revision to FSAR Section 9.5.6.2.

33. This item is closed with the proposed revision to Section 9.5.6.5.

34. This item is closed with the revised response to Q430.94N.

35. This item is closed with the revisions to FSAR Section 9.5.7.1 and response to Q430.47N.

36. This item is closed with the revision to FSAR Section 9.5.7.5. (Confirmation; procedures are in place by - Region IV)

37. This item is closed with the revision to FSAR Section 9.5.7.2. (Confirmation procedures are in place - Region IV)

38. This item is closed with the proposed revision to the Q430.99N response.

39. This item is closed with the revisions to FSAR Section 9.5.8.1 and the response to Q430.47N.

40. This item is closed with the revision to FSAR Section 9.5.8.5. (Confirmation; procedures are in place - by Region IV)

41. This item is open until computational differences between the staff and the applicant are resolved.

42. This item is open. The staff has committed to respond shortly to the applicants position that the information presented shows the design to be adequate.

43. This item is open. The staff has committed to respond shortly to the applicants position that the information presented shows the design to be adequate.

44. This item is closed with the proposed revisions to FSAR Section 9.5.8.2 and Q430.60N.

45. This item is closed with information to be provided in an upcoming FSAR amendment on Q40.37, with inclusion of a P&I diagram.

46 & 47. These items are closed with the proposed revisions to FSAR Section 10.4.4.3, 10.4.4.4 and the response to Q430.105N.

N Prasad Kadambi

N. Prasad Kadambi, Project Manager
Licensing Branch No. 3
Division of Licensing

Enclosures:
As stated

cc: See next page

46 & 47. These items are closed with the proposed revisions to FSAR Section 10.4.4.3, 10.4.4.4 and the response to Q430.105N.

N. Prasad Kadambi, Project Manager
Licensing Branch No. 3
Division of Licensing

Enclosures:
As stated

cc: See next page

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OCT 3 1985

MEETING SUMMARY DISTRIBUTION

Docket No(s): 50-498/499
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N. P. Kadambi
A. Ungaro
R. Giardina

bcc: Applicant & Service List

Enclosure 1

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

SEP 5 1985

Docket Nos.: 50-498
and 50-499

MEMORANDUM FOR: George W. Knighton, Chief
Licensing Branch No. 3, DL

FROM: N. Prasad Kadambi, Project Manager
Licensing Branch No. 3, DL

SUBJECT: NOTICE OF MEETING WITH HOUSTON LIGHTING & POWER COMPANY'S (HL&P) SOUTH TEXAS PROJECT TO DISCUSS POWER SYSTEMS BRANCH (MECHANICAL) QUESTIONS

DATE & TIME: September 9, 1985, 1:00 pm
September 10, 1985, 8:00 am

LOCATION: Rooms P-110 and P-118 respectively
7920 Norfolk Avenue
Bethesda, Maryland

PURPOSE: This meeting is a follow-up to HL&P's response to a staff request for additional information (dated April 24, 1985) and information presented at a July 2, 1985 meeting (HL&P letter dated July 23, 1985). The applicant has provided draft responses (see Attachment) which will comprise the agenda items for this meeting.

PARTICIPANTS:

NRC

N. P. Kadambi, A. Ungaro, R. Giardina

HL&P	Bechtel
M. Powell, et al.	J. Atwell, et al.

N. Prasad Kadambi

N. Prasad Kadambi, Project Manager
Licensing Branch No. 3, DL

Enclosure: As stated

cc: See next page

Note: NRC meetings are open to be observed by interested members of the public. If interested, please contact N. P. Kadambi at (301) 424-0508.

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Attachment

1. STP has already provided response to this concern (9.5.2.3.1) with the exception of part 5. Refer to STP response to Q040.10 including Table Q 040.10-1.

   The STP communication system provides an integrated design that will provide effective communication between plant personnel in all vital areas during normal plant operation and during the full spectrum of accident or incident conditions (including fire) under maximum potential noise levels. This conforms with the requirements of Standard Review Plan 9.5.2 (NUREG 0800). The areas (working stations) described by STP's response in Q040.10 are the only areas in the plant for which communication is necessary to support safe shutdown of the plant or mitigation of the consequences of an accident. No other areas are considered to be "vital", with respect to the need for communications, or are necessary to support safe shutdown or accident mitigation activities. STP's response including the list of subject areas is similar to those of other previously reviewed plants.

   With respect to part 5 regarding performance/preoperational tests for communications, refer to Section 14.2.12.2 item 19. Q40.10 will be revised to reflect that this is found in 14.2.12.2. (Ref. 9.5.2.3.1)

2. In response to the concern regarding communication system functionality following a DBE (9.5.2.3.2), we note that the STP design is such that it is not necessary for operators to leave the control room to bring the plant to safe shutdown during or after a seismic event. Additionally, as stated in the response to Q430.77N the following subsystems will be available during and after a DBE:

   1) Sound powered Maintenance Jacks
   2) Hand-held radio transceiver
   3) Telephone EPBAX

   (Ref. 9.5.2.3.2)

3. Section 9.5.2 and the response to Q430.76N have been revised to address Inspection and Testing. (Ref. 9.5.2.3.3)

4. STP has already provided response to this concern. Refer to Table 9.5.3-1.

   The STP lighting system provides an integrated design that provides adequate emergency station lighting in all areas, from onsite power sources, required for fire fighting, control and maintenance of safety-related equipment, and the access routes to and from these areas. This conforms with Standard Review Plan 9.5.3 (NUREG 0800). The areas (working stations) described by STP's response in Q430.78N

and Table 9.5.3-1 represent the only areas in the plant for which lighting is necessary to support safe shutdown of the plant or mitigation of consequences of an accident. No other areas are considered to be "vital" with respect to the need for lighting or are necessary to support safe shutdown or accident mitigation activities. STP's response including the list of subject areas is similar to those of other previously reviewed plants.

For additional descriptive information related to this concern refer to Section 9.5.3 and tne responses to Q430.80N, Q430.81N, and Q430.82N. (Ref. 9.5.3.3.1)

5. As sated in our response to Q430.82N and described in Section 9.5.3.2 STP utilizes an integrated emergency lighting system to provide adequate emergency station illumination levels. This conforms to Standard Review Plan 9.5.3 (NUREG 0800) which states that "... the emergency lighting system(s) is acceptable if the integrated design of the system(s) will provide adequate emergency station lighting in all areas, from onsite power sources, required for fire fighting, control and maintenance of safety-related equipment, and the access routes to and from these areas...". Ten foot-candles at work stations and two to five at access/egress routes are provided via the integrated use of STP's Essential AC Lighting System and the Emergency DC Lighting System as described in Section 9.5.3. These areas are provided with lighting powered from onsite sources as shown on Table 9.5.3-1. (Ref. 9.5.3.3.2)

6. Section 9.5.3 has been revised to include a new Section 9.5.3.3 titled Safety Evaluation.

   Backup dc lighting has been discussed for all areas needing backup lighting as described in 9.5.3.2 and Table 9.5.3-1.

   Portable dc lighting has been discussed in STP's response to Q430.78N and in the Fire hazards Analysis Report.

   Note that tne non-safety related DG (the TSC DG) is not common to Units 1 and 2. One TSC DG is provided for each unit. The only common DG utilized for lighting is the non-Class 1E DG which powers the yard area lighting which is not necessary for any emergency situations. This DG is independent of the TSC DG's. (Ref. 9.5.3.3.4)

7. The STP design is such that it is not necessary for operators to leave the control room to being the plant to safe shutdown during or after a seismic event. Note also that the control room, auxiliary shutdown panel an transfer switch panels are provided with backup power from Class 1E DG's. These DG's are also protected from the effects of a seismic event and tornado missile impacts. See also FSAR Section 9.5.3.1 item 2. (Ref. 9.5.3.3.4)

8. The response to Q430.58N has been revised to address housecleaning measures as well as the use of dust-tight enclosures. (Ref. 9.5.4.1.3.2)

9. The response to Q430.28N has been revised to provide more detailed information on training for the emergency diesel generators. (Ref. 9.5.4.1.3.3)

10. Section 9.5.5.6 has been revised to include the loading requirements of the DG during testing and troubleshooting. (Ref. 9.5.4.1.3.4)

11. The response to Q430.102 has been revised to address this concern. (Ref. 9.5.4.1.3.5)

12. The response to Q430.24N has been revised to incorporate a final equipment check. (Ref. 9.5.4.1.3.6)

13. The response to Q430.24N has been revised to incorporate a brief discussion of the Preventive Maintenance program. (Ref. 9.5.4.1.3.7)

14. The concern in the past has been vibrations causing instrumentation problems on DG skid mounted panels. As described in the response to Q430.25N, the panels are not located on the DG skid and they have been vibration aged as part of their equipment qualification program. (Ref. 9.5.4.1.3.8)

15. Section 9.5.4.1(5) has been revised to reflect the industry standards which are met by the diesel mounted piping. Also see the revised response to Q430.47N. (Ref. 9.5.4.2.3.1.1)

16. Section 9.5.4.2 has been revised to reflect a description of the fuel oil drain tank and transfer pump. (Ref. 9.5.4.2.3.1.2)

17. Section 9.5.4.3 has been revised to describe the project's internal corrosion protection program for the FOST and AFOST. (Ref. 9.5.4.2.3.2.1)

18. Section 9.5.4.4 has been revised to reflect the frequency of calibration for the instrumentation. (Ref. 9.5.4.2.3.2.2)

19. The response to Q040.20 provides STP's commitment to the McGuire Tech Specs with the noted exception. (Ref. 9.5.4.2.3.3.3.1)

20. Section 9.5.4.4 has been revised to indicate the frequency of water removal in both the FOST and AFOST. (Ref. 9.5.4.2.3.3.2)

21. The types of maintenance and testing of the cathodic protection system have been been added to Section 9.5.4.3. (Ref. 9.5.4.2.3.3.3)

22. This is a staff open item on themselves. However, please refer to Question numbers 40.22, 430.46N, 430.86N, and 430.98N for our responses to this topic. (Ref. 9.5.4.2.3.4)

23. Section 9.5.4.3 has been revised to reflect the design of the emergency fill connection with respect to tornado protection. (Ref. 9.5.4.2.3.5.1)

24. A description of the emergency fill connection was transmitted in letter ST-HL-AE-1268, Section 9.5.4.3 and Figure 9.5.4-1 (Amd. 49) reflect the connection which consists of a filter and a locked closed ASME III valve. (Ref. 9.5.4.2.3.5.2)

25. The response to Q430.86N has been revised to state that adequate head is available on the tank trucks to pump the oil to the emergency fill connection. (Ref. 9.5.4.2.3.5.3)

26. Section 9.5.5.1 has been revised to reflect the industry standards which are met by the diesel mounted piping. Also see the revised response to Q430.47N. (Ref. 9.5.5.3.1)

27. Section 9.5.5.4 has been revised to reflect the frequency of calibration for the cooling water instrumentation. (Ref. 9.5.5.3.2)

28. The response to Q430.91N has been revised to include a more detailed discussion of this concern. (Ref. 9.5.5.3.3)

29. The response to Q430.102 has been revised to address this concern. (Ref. 9.5.5.3.4)

30. Section 9.5.6.1 has been revised to reflect the industry standards which are met by the diesel mounted piping. Also see the revised response to Q430.47N. (Ref. 9.5.6.3.1)

31. Section 9.5.6.5 has been revised to reflect the calibration frequency of the starting air system instrumentation. (Ref. 9.5.6.3.2)

32. Section 9.5.6.2 has been revised to reflect the pre- and after filters located in the system to prevent oil carryover from the compressor. (Ref. 9.5.6.3.3)

33. Section 9.5.6.5 has been revised to indicate the period of inspection for the air dryer. (Ref. 9.5.6.3.4)

34. The response to Q430.94N has been revised to reflect the fact that no instrument air is required to provide the safety trips or support operation of the diesel in the emergency mode. (Ref. 9.5.6.3.5)

35. Section 9.5.7.1 has been revised to reflect the industry standards which are met by the diesel mounted piping. Also see the revised response to Q430.47N. (Ref. 9.5.7.3.1)

36. Section 9.5.7.5 has been revised to include the calibration frequency of the lube oil instrumentation. (Ref. 9.5.7.3.2)

37. Section 9.5.7.2 has been revised to include the frequency of lube oil inspection. (Ref. 9.5.7.3.3)

38. The existing response to NRC Question 430.99N is acceptable. The direction for lube oil filling will be in a procedure which will clearly identify which connection is to be used. (Ref. 9.5.7.3.4)

39. Section 9.5.8.1 has been revised to reflect the industry standards which are met by the diesel mounted piping. Also see the revised response to Q430.47N. (Ref. 9.5.8.3.1)

40. Section 9.5.8.5 has been revised to provide the frequency of calibration of the combustion air intake and exhaust instrumentation. (Ref. 9.5.8.3.1)

41. As stated in Section 9.5.8.3, the methodology used was that found in R.G. 1.78. Thus, the X/Q method described in Appendix B was used to determine the worst case (centerline) concentration of the N_2 gas at the intake to the DG. This concentration was then used to displace oxygen at the intake to arrive at the total displaced oxygen of 17%. (Ref. 9.5.8.3.3)

42. The results of the current analysis are presented in section 9.5.8.3. Additional analyses are being performed and the results will be available in September (Ref. 9.5.8.3.4)

43. See 42 (Ref. 9.5.8.3.5)

44. Section 9.5.8.2 and Q430.60N have been revised to describe the DG exhaust design. (Ref. 9.5.8.3.6)

45. Question 40.37 has been revised and will appear in Amd. 51. (Ref. 10.2.3.1)

46. Table 10.4-4 has been revised to include the spurious opening of the turbine bypass valve. With respect to the two items shown in your Section 10.4.4.3.1:

    a) The opening of a turbine bypass valve is an ANS Condition II event as described in Section 15.1.4. Thus, the effects of the event are provided in the FSAR.

b) Each turbine bypass line has a drain which automatically will drain any liquid which collects in the line. In the event failure occurred to automatically drain the line, the separate high level alarm would provide indication. In any event, the worst scenario would be failure to pass steam which is equivalent to failure of the valve to open which is included in the FMEA (Table 10.4-4).

47. Section 10.4.4.4 and the response to Q430.105N have been revised to reflect STP's position on the frequency of inspection of the turbine bypass lines. (Ref. 10.4.4.3.2)

Meeting With South Texas Project On The Power Systems Branch (Mechanical) Concerns. September, 9, 1985.

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Meeting With South Texas Project On The Power Systems Branch (Mechanical) Concerns
September 10, 1985

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