

September 2, 2009

Mr. Scott Head, Manager
Regulatory Affairs
STP Nuclear Operating Company
P. O. Box 289
Wadsworth, TX 77483

SUBJECT: REVISED - REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 220
RELATED TO SRP SECTION 16 FOR THE SOUTH TEXAS PROJECT
COMBINED LICENSE APPLICATION

Dear Mr. Head:

By letter dated September 20, 2007, STP Nuclear Operating Company (STP) submitted for approval a combined license application pursuant to 10 CFR Part 52. The U. S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within **30** days of the date of this letter. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

S. Head

-2-

If you have any questions or comments concerning this matter, I can be reached at 301-415-6197 or by e-mail at Tekia.Govan@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Tekia V. Govan, Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos.: 52-012
52-013

eRAI Tracking No. 3569, 3566, 3122

Enclosure:
Request for Additional Information

cc: William Mookhoek
Richard Bense

Distribution:
PUBLIC
NGE 1/2 R/F
GWunder, NRO
BAbeywickrama, NRO
CHarback, NRO
SJoseph, NRO
OTabatabai, NRO
DScully, NRO
SBrock, OGC
RidsNroDserRsac
RidsNroDnrlNge2

**ADAMS Accession No. ML092450144 (Revised)
ML092400414 (Original)**

NRO-002

| OFFICE | CTSB/TR | CTSB/BC | NGE2/PM | OGC | NGE2/L-PM |
|--------|---------------------------|------------|---|------------|------------|
| NAME | DScully and OTabatabai | CHarback | SJoseph | SBrock | GWunder |
| DATE | 08/13/2009 | 08/13/2009 | 08/14/2009 (TGovan for) 9/2/09 - (Revised) | 08/19/2009 | 08/27/2009 |

***Approval captured electronically in the electronic RAI system.**

OFFICIAL RECORD COPY

Request for Additional Information No. 3569 Revision 2

South Texas Project Units 3 and 4 South Texas Project Nuclear Operating Co Docket No. 52-012 and 52-013 SRP Section: 16 - Technical Specifications Application Section: 3.3

QUESTIONS for Technical Specification Branch (CTSB)

16-54

STD DEP 16.3-78 removes the containment water level parameter from Post Accident Monitor technical specifications because the parameter does not meet the criteria for inclusion (i.e., Drywell water level is classified as Regulatory Guide 1.97 (revision 3) Category 2 non-type A, and sump level is classified as Category 3 non-type A). Also, the Bases only require that PAM instrumentation for parameters that are classified as Regulatory Guide 1.97 Type A or Category I non-type A be included in TS. The departure states that "Lower drywell level instrumentation is described as 'not warranted' in the DCD" but does not state a specific DCD section for this quote.

10 CFR 52.79(a)(17) requires that information with respect to compliance with technically relevant positions of the Three Mile Island requirements of 50.34(f) must be provided in a final safety analysis report, with three exceptions; 10 CFR 50.34(f)(1)(xii), 10 CFR 50.34(f)(2)(ix) (ix), and 10 CFR 50.34(f)(3)(v).

The three exceptions to 50.34(f) deal with hydrogen control and containment integrity. The relevant requirements of 50.34(f) dealing with accident monitoring instrumentation, specifically 50.34(f) (2) (xvii), is retained by 52.79(a) (17).

Additional explanation needs to be provided to justify the removal of the Containment Water Level function from the PAM Instrumentation specification. The explanation should include why the Drywell Water Level is classified as Category 2 and Drywell Sump Level is classified as Category 3 and the specific parts of the documents, standards, guides or regulations that are cited for the justification. Additional explanation should be provided for this Departure before the acceptability of this Departure can be concluded.

16-55

In the Background section of the bases for plant-specific TS 3.3.1.1, the discussion of the Automatic Depressurization System (ADS) is changed by STD DEP 16.3-85 to correct the ADS accumulators' capacity to operate the safety relief valves with no external source of nitrogen.

The revised text, which is supported by DCD Section 7.3.1.1.1.2(3), paragraph 2, and Section 5.2.2.4.1, states that the ADS accumulators have sufficient capacity to operate the safety relief valve one time at drywell design pressure or five times at normal drywell pressure with no external source of nitrogen.

The revised text proposed by STD DEP 16.3-85 does correct the Bases to be consistent with the text given in FSAR Section 7.3.1.1.2. However, the departure does not explain why sizing the ADS accumulator capacity to operate the SRV "once at drywell design pressure or five times at normal drywell pressure" instead of "twice at 70% drywell design pressure" does not change the intent of GTS 3.3.1.1 for sensor instrumentation functions that support the ADS (e.g., Function 9). The applicant is requested to explain in the departure the technical basis for the the revised text and why it does not change the intent of GTS 3.3.1.1.

16-56

STD DEP 16.3-86 revises generic TS SR 3.3.1.4.7 from "Perform Manual initiation CHANNEL FUNCTIONAL TEST" to "Perform CHANNEL FUNCTIONAL TEST," and Footnote (d) of generic TS Table 3.3.1.4-1 from "These are manual initiation channel functions" to "These are manual channel functions."

Table 3.3.1.4-1, "ESF Actuation Instrumentation," in both generic and plant-specific TS 3.3.1.4, specifies that SR 3.3.1.4.7 and Footnote (d) apply to the following ESF actuation instrumentation Functions:

1. e LPFL Manual Initiation of the LPCF Actuation,
2. f HPCF B Manual Initiation of the HPCF Actuation,
2. g HPCF C Diverse Logic Manual initiation of the HPCF Actuation,
3. e RCIC Manual Initiation of the RCIC Actuation,
4. c ADS Manual Initiation of ADS,
4. f ATWS Manual ADS Inhibit of ADS,
5. e DG Manual Initiation of Diesel-Generator Actuation,
7. c RCW/RSW Manual Initiation of RBCW/SW Actuation,
9. c SPC Manual Initiation of SPC Cooling Actuation,
- 11 CIV Division Manual Initiation,
12. c RCIC Manual Isolation Initiation of RCIC Isolation Actuation.

This departure appears to address the apparent inconsistency of using the word "initiation" in the SR and Footnote while applying the SR and Footnote to Function 4.f, which uses the word "inhibit." Since a CFT is specified regardless of the inclusion of the word "initiation", the intent of the GTS is not changed. Therefore this departure is administrative and acceptable. The applicant is requested to confirm the staff's understanding of the purpose of this departure and to clarify in the departure why the intent of GTS 3.3.1.4 is not changed.

Request for Additional Information No. 3566 Revision 2

South Texas Project Units 3 and 4 South Texas Project Nuclear Operating Co Docket No. 52-012 and 52-013 SRP Section: 16 - Technical Specifications Application Section: 3.6

QUESTIONS for Technical Specification Branch (CTSB)

16-57

Justify the testing requirements of Surveillance Requirements (SR) contained in Section 3.6.1 in order to validate Departure STD DEP 16.3-44.

The Bases states, "Maintaining the primary containment OPERABLE requires compliance with the visual examinations and leakage rate test requirements of 10 CFR 50, Appendix J (Ref. 3), as modified by approved exceptions. Failure to meet air lock leakage testing (SR 3.6.1.2.1), [resilient seal primary containment purge valve leakage testing (SR 3.6.1.3.7),] or main steam isolation valve leakage (SR 3.6.1.3.13), or hydrostatically tested valve leakage (SR 3.6.1.3.12) does not necessarily result in a failure of this SR. The impact of the failure to meet these SRs must be evaluated against the Type A, B, and C acceptance criteria of 10 CFR 50, Appendix J."

Departure STD DEP 16.3-44 deleted the phrase "main steam isolation valve leakage (SR 3.6.1.3.13)" from Bases B 3.6.1.1 SR 3.6.1.1.1. The explanation for this change is that the containment analysis assumes a specific leakage limit for La and a specific leakage limit for main steam isolation valve leakage. It is unclear how assuming a specific leakage limit for main steam isolation valve leakage justifies its exclusion from leakage rate testing in accordance with 10 CFR 50, Appendix J.

This information is required in order to determine that leakage rate testing will be performed in accordance with 10 CFR 50, Appendix J.

16-58

These are questions that apply to STD DEP 16.3-71.

a) Provide justification for deleting the exception for purge valve penetration flows from Note 1 in 3.6.1.3 LCO Action, Note 1.

This part of Departure STD DEP 16.3-71 deletes the exception for purge valve penetration flow paths and would allow purge valve penetration flow paths to be insulated intermittently under administrative controls. No explanation has been provided to justify this change.

b) Provide justification for adding "main steam line isolation valve leakage, or hydrostatically tested line leakage" to Condition A in 3.6.1.3 LCO Condition A and B 3.6.1.3 LCO Action A.1 and A.2, 1st Sentence, 1st Paragraph.

This part of Departure STD DEP 16.3-71 adds "main steam line isolation valve leakage, or hydrostatically tested line leakage" to Condition A. No explanation has been provided to justify this change.

c) Provide justification for adding "main steam line isolation valve leakage, or hydrostatically tested line leakage" to Condition B in 3.6.1.3 LCO Condition B and B 3.6.1.3 LCO Action B.1, 1st Sentence, 1st Paragraph.

This part of Departure STD DEP 16.3-71 adds "main steam line isolation valve leakage, or hydrostatically tested line leakage" to Condition B. No explanation has been provided to justify this change.

d) Provide justification for deleting original Surveillance Requirement 3.6.1.3.1 and its associated Note in 3.6.1.3 SR 3.6.1.3.1.

This part of Departure STD DEP 16.3-71 deletes SR 3.6.1.3.1 including its associated Note. In the Original Wording of this part of Departure STD DEP 16.3-71, SR 3.6.1.3.1 is required only while in Condition D of the LCO. In both the Original Wording and the Departure Wording of Condition D of the LCO, SR 3.6.1.3.1 would have to be done when (Original Wording) "One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits." or (Departure Wording) "Pure valve leakage rate, main steam isolation valve leakage, or hydrostatically tested line leakage not within limit." The explanation to this change states "Utilizing the Note in SR 3.6.1.3.2 would always be a failure to meet SR 3.6.1.3.1. The ABWR utilizes an inerted containment and therefore, SR 3.6.1.3.2 is the appropriate SR for the design." As the Original Wording of SR 3.6.1.3.1 applies only in Condition D, the conflict with SR 3.6.1.3.2 is not apparent. Note 2 to SR 3.6.1.3.2 allows the primary containment purge valves to be opened for inerting, deinerting, pressure control, ALARA or air quality considerations for personnel entry, or Surveillances that require the valves to be open.

e) Provide justification for deleting the phrase "maintained seal closed or" from the 2nd paragraph of Bases B 3.6.1.3 LCO in B 3.6.1.3 LCO, 2nd Paragraph.

This part of Departure STD DEP 16.3-71 deleted the phrase that eliminated the requirement to maintain sealed closed the 550 mm purge valves. No explanation has been provided to justify this change.

f) Provide justification for eliminating the phrase "Due to the size of the primary containment purge line penetration and the fact that those penetration exhausts directly from the containment atmosphere to the environment, the penetration flow path containing these valves is not allowed to be opened under administrative controls. A single purge valve in a penetration flow path may be opened to effect repairs to an inoperable valve as allowed by SR 3.6.1.3.1." in B 3.6.1.3 LCO Actions, 1st Paragraph.

This part of Departure STD DEP 16.3-71 deleted the phrase that allows the primary containment purge line penetration to be opened under administrative controls. No explanation has been provided to justify this change.

This information is required in order to validate STD DEP 16.3-71.

16-59

Provide justification for deleting the Note "Results shall be evaluated against acceptance criteria of SR 3.6.1.1.1 in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions." in plant-specific TS SR 3.6.1.3.12 and bases.

Departure STD DEP 16.3-72 deletes the Note "Results shall be evaluated against acceptance criteria of SR 3.6.1.1.1 in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions." The explanation for the deletion of this Note is that the Containment Radiological Analysis takes into account MSIV leakage separately from La. It is not clear how the Containment Radiological Analysis taking into account MSIV separately from La eliminates the need for the Note to SR 3.6.1.3.12.

This information is needed to validate STD DEP 16.3-72 by ensuring that the acceptance criteria of 10 CFR 50, App J are being properly addressed, and that the intent of generic TS SR 3.6.1.3.12 is not changed by removing the note.

16-60

STD DEP 16.3-71 deletes Action D from GTS 3.6.1.3. GTS Condition D addresses containment purge valves not within purge valve leakage limits. Required Action D.1 requires isolating the affected penetration flow path within 24 hours. Required Action D.2 requires verifying the affected flow path is isolated once per 31 days for isolation devices outside containment and prior to entering Mode 4 from Mode 5 if not performed within the previous 92 days for isolation devices inside containment. Bracketed Required Action D.3 requires performing bracketed SR 3.6.1.3.7 for resilient seal purge valves closed to comply with Required Action D.1 once per [92] days; SR 3.6.1.3.7 requires performing leakage rate testing for each purge valve with resilient seals with a Frequency of once per 184 days and once within 92 days after opening the valve.

STD DEP 16.3-71 also added a new Action D to plant-specific TS 3.6.1.3. New Condition D addresses purge valve leakage, main steam isolation valve (MSIV) leakage, and hydrostatically tested line leakage not within limits, the second and third leakages having been moved from GTS Conditions A and B. New Required Action D.1 requires restoring leakage to within limit in 4 hours, except for MSIV leakage, which has an 8-hour completion time. Staff notes that PTS Required Action A.2 now requires verifying MSIV and hydrostatically tested line penetration flow paths to be isolated, whereas the GTS specified this action in Required Action D.2. Also, new Required Action D.1 appears to accomplish the purpose of GTS Required Action D.3. Therefore it appears that the new Actions maintain the intent of the previous Actions and in addition also require restoring MSIV and hydrostatically tested line leakage, as well as purge valve leakage, to within limits in a shorter time than required by GTS 3.6.1.3.

However, the 4 hours and 8 hours (MSIV) Completion Time for Required Action D.1 is in brackets which indicates that this time interval is not the final submittal. If 4 hours and 8 hours (MSIV) Completion Time for new Required Action D.1 is the final site-specific times, then new Required Action D.1 is acceptable (See RAI 16-21).

Provide a clearer explanation and justification for deleting GTS 3.6.1.3 Required Actions D.2 and D.3 from 3.6.1.3 Action D.

Request for Additional Information No. 3122 Revision 2

**South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 16 - Technical Specifications
Application Section: 16**

QUESTIONS for Technical Specification Branch (CTSB)

16-61

STD DEP 16.3-89 proposes to omit a reference to the rod drop accident from the Applicable Safety Analysis section of the bases for PTS 3.1.2, because ABWR DCD Section 15.4.10.3.1 states, in part, that there is no basis for the control rod drop event to occur.

Section 15.4.1 of the ABWR FSER restates the DCD position that the control rod drop accident is an event that is extremely unlikely for the ABWR. The Staff, however, performed an evaluation of this accident, which is included in the ABWR FSER. The Staff stated, in the ABWR FSER, that this accident "evaluation should establish a reference for comparison of future applications incorporating the ABWR design."

Please provide additional justification for removing the reference to rod drop accident from the bases.

16-62

STD DEP 16.3-90 departure proposes to omit Reference 5, which is the ABWR DCD Section 15.4.9, "Rod Ejection Accident," from the Applicable Safety Analyses (ASA) and References sections of the bases for PTS 3.1.3 because the reference states that the rod ejection accident is not postulated to occur. The ASA bases section states that the analytical methods and assumptions used in the evaluations involving control rods are presented in References 2, 3, 4, and 5. Please provide additional justification for removal of the rod ejection accident from the bases.