

PMSTPCOL PEmails

From: Tai, Tom
Sent: Wednesday, July 15, 2009 2:46 PM
To: Agles, James
Cc: Mookhoek, William; STPCOL; Andrukat, Dennis
Subject: STP Letter 150 - RAI 2352 & 2404
Attachments: ML0919601063 Ltr 150 2352&2404.pdf

Jim,

Attached for your information is an advanced copy of Letter 150 transmitting Chapter 9.5.1 RAIs 2352 and 2404.

Regards

Tom Tai
DNRL/NRO
(301) 415-8484
Tom.Tai@NRC.GOV

Hearing Identifier: SouthTexas34Public_EX
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Subject: STP Letter 150 - RAI 2352 & 2404
Sent Date: 7/15/2009 2:46:06 PM
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From: Tai, Tom

Created By: Tom.Tai@nrc.gov

Recipients:

"Mookhoek, William" <wemookhoek@STPEGS.COM>
Tracking Status: None
"STPCOL" <STP.COL@nrc.gov>
Tracking Status: None
"Andrukat, Dennis" <Dennis.Andrukat@nrc.gov>
Tracking Status: None
"Agles, James" <jaagles@STPEGS.COM>
Tracking Status: None

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Reply Requested: No
Sensitivity: Normal
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July 15, 2009

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

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 150 RELATED TO
SRP SECTION 09.05.01 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

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If you have any questions or comments concerning this matter, I can be reached at 301-415-8484 or by e-mail at Tom.Tai@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Tom M. Tai, Senior Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 2352 and 2404

Enclosure:
Request for Additional Information

cc: William Mookhoek
James Agles

S. Head

-2-

If you have any questions or comments concerning this matter, I can be reached at 301-415-8484 or by e-mail at Tom.Tai@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Tom M. Tai, Senior Project Manager
ABWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 2352 and 2404

Enclosure:
Request for Additional Information

cc: William Mookhoek
James Agles

Distribution:
PUBLIC
NGE 1/2 R/F
GWunder, NRO
BAbeywickrama, NRO
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RidsNroDnrINge2

ADAMS Accession No. ML091960106

NRO-002

OFFICE	SFPB/TR	SFPB/BC	NGE2/PM	OGC	NGE2/L-PM
NAME	DAndrukat	RRadlinksi	TTai	SKirkwood	GWunder
DATE	4/23/09	4/23/09	7/15/09	5/12/09	5/29/09

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

OFFICIAL RECORD COPY

Request for Additional Information No. 2352 Revision 2

**South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 09.05.01 - Fire Protection Program
Application Section: 09.05.01, 9A, 9B, & 9E**

QUESTIONS for Fire Protection Team (SFPT)

09.05.01-1

Spurious Actuations:

ABWR DCD Subsection 9.5.1.1.7, Spurious Control Actions states: "Two simultaneous, identical digitized control signals are required at the de-multiplexer for control action to be taken at the field device. The probability of two spurious signals matching is essentially zero."

Although this makes a good case for preventing multiple spurious signals being generated by the devices that normally cause the actuation signals to be sent, control devices are only one link in the chain that causes a component actuation. The NRC staff recognizes that fiber optic cables are not susceptible to spurious actuations; however, the same cannot be said for other types of cables, such as any power cables or other hardwire cables, or equipment, to include digital equipment cabinets. The applicant is to address the adverse effects (spurious actuations) of fire and smoke on cables other than fiber optic cables and electrical equipment including digital equipment. Is there a potential for direct electrical shorts that bypass the digital signal? Are there any common or shared equipment amongst the safety trains whereas a spurious actuation in one train limits or nullifies the capability of another train? For example, a spurious actuation in train A opens a valve to the shared CST tank thus draining the tank and leaving it unavailable to all other trains.

In departure T1 3.4-1, STP has stated that they will not be using the de-multiplexer type system as described in the ABWR DCD. Such a departure to the DCD digital I&C system may affect the design basis behind ABWR's multiple spurious probability assumption. As such, STP is to reconsider subsection 9.5.1.1.7 and address any potential for spurious actuations within STP's new proposed digital I&C system.

STP is to evaluate the potential of the adverse effects of smoke on plant's electrical systems (including the digital system) and include provisions with descriptions to limit smoke travel to within a single fire area.

09.05.01-2

Water Supply:

ABWR DCD and STP FSAR Subsections 9.5.1.3.5 both describe the fire protection water supply. However there are several clarifications that need to be addressed:

- 1) What is the source of the fire protection water supply for STP Units 3&4? STP FSAR 9.5.1.3.5 indicates "two storage tanks" shared by Units 3 and 4. However, it is not clear whether these are dedicated fire water storage tanks or water tanks that are shared amongst various systems.

Enclosure

- 2) What is the capacity for each of the fire protection water supply tanks? The ABWR DCD mentions both 1,140 m³ and 456 m³ - the COL applicant is to identify the actual size of these tanks.
- 3) What is the design basis for the capacity of the water supply? If using the minimum numbers in RG 1.189 (Rev. 1), have calculations based on the ABWR design been performed to verify these minimum numbers are indeed sufficient?
- 4) DCD Subsection 9.5.1.3.5 states that the water supply is required to be fresh water but filtered if necessary. However, the STP FSAR does not state whether or not filtering of the water supply will be necessary. How will the water quality be maintained in accordance with NFPA 13, 14, 22, & 24? The system or process is to be explained.
- 5) The applicant is to explain the refilling process for the fire water supply tanks. Also verify that the refilling can be completed within 8 hours in accordance with RG 1.189 (Rev. 1).
- 6) STP FSAR Subsection 9.5.1.3.5 state that the fire protection water supply will be shared between Units 3&4. Will this water supply also be shared with existing Units 1&2? Will there be any cross-connection into the existing (Units 1&2) fire protection water supply (existing main loop)? If so, consideration is needed and to be described to deal with isolation abilities between the two systems and how the much older existing system will not degrade the new fire protection water supply for Units 3&4.
- 7) Applicant is to verify that the plant fire protection system hose threads and other appropriate threaded connections (hydrants, standpipes, fire department connections, etc) will be compatible with the equipment used by the local offsite fire departments.
- 8) Applicant is to verify that fire protection system and component maintenance will be in accordance with the applicable NFPA codes.

09.05.01-3

Fire Brigade Communications:

The applicant is to provide a communication design appropriate for use by the fire brigade in accordance with RG 1.189 (rev. 1) Position C.4.1.7. The applicant has described the communication system in FSAR Subsection 9.5.13.14 which eludes to the fire brigade using the plant's 'two way radio' 'portable radio communications system'. It is not clear if the 'two way radio' provides complete plant wide coverage or only coverage to safety-related areas. RG 1.189's intent is that all areas important to safety shall have portable radio coverage. Will there be a dedicated channel available for fire brigade purposes during an emergency? The applicant must make clear that the components (equipment, power cables, antenna) are free from fire damage and ensure complete radio coverage to all covered areas during a fire, including inside the fire area.

FSAR subsection 9.5.13.14 states that the 'Telephone System' and the 'Maintenance Jack System (DC/Sound-Powered)' systems are fixed communications systems and available to the fire brigade during emergency safe shutdown and fire fighting operations. Where will the 'telephone'/'maintenance' stations/handsets be located? What is your basis for determining which areas get a fixed telephone and maintenance jack station?

09.05.01-4

Fire Brigade:

STP RCOLA describes the fire brigade program elements in Appendix 9E. It is acceptable to the NRC to have one fire brigade for multiple units within a single plant/site. However, the applicant is to clarify on whether STP plans to have one fire brigade for all 4 units (Units 1&2 are existing nuclear units) or two fire brigades - one for Units 1&2 and another for Units 3&4. The applicant must address the fact that Units 1&2 are of a different design that present different fire protection systems as well as different safe shutdown equipment and procedures. This difference greatly impacts the fire brigade on all levels from training to personnel to equipment to strategies/procedures. The applicant must address these issues and why they think their approach is acceptable in meeting the intent of RG 1.189 (Rev.1) and the goals of 10 CFR 50.48.

09.05.01-5

Operator Manual Actions:

The applicant is to clarify and describe if any operator manual actions outside of the main control room that will be credited for post-fire safe shutdown operations. The applicant is to explain why such actions are required and describe compliance with regulatory guidance for operator manual actions (e.g., RG 1.189, Rev 1 and NUREG-1852).

Request for Additional Information No. 2404 Revision 2

**South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co
Docket No. 52-012 and 52-013
SRP Section: 09.05.01 - Fire Protection Program
Application Section: 09.05.01**

QUESTIONS for Fire Protection Team (SFPT)

09.05.01-6

Biodiesel:

Although neither Subsection 9.5.1 nor 9.5.4 of the STP COL commits to the use of biodiesel fuel for the diesel generators, IN 2009-02, "Biodiesel in Fuel Oil Could Adversely Impact Diesel Engine Performance", cautions that the use of alternative fuels such as biodiesel could affect the diesel engine driven fire pump operating characteristics, maintenance requirements and equipment life. The effects of these new fuels may not be well known, especially the long term effects. The applicant should state whether the use of alternative fuels is anticipated and if it is, what provisions will be made to determine the possible affect on the diesel engine driven fire pump and what measures will be taken to ensure continued operation of the system.

09.05.01-7

Editorial:

Applicant's FSAR 9.5.1 refers to Appendix "9ES" multiple times with regards to administrative controls, procedures, training, etc. However, it is Appendix "9E" that contains such information. Appendix "9ES" does not exist. Please verify and correct or provide explanation.