

## PMSTPCOL PEmails

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**From:** Tai, Tom  
**Sent:** Friday, May 29, 2009 10:59 AM  
**To:** Agles, James  
**Cc:** STPCOL  
**Subject:** Draft RAI 2404 for Chapter 9.5.1  
**Attachments:** RAI 2404 09.05.01-xx.doc

James,

Please review the attached RAI (09.05.01-xx). If you need a conference call to clarify the requested information, please contact me. If a conference call is not needed, please send me an email and I will continue the formal process of issuing the RAI to STPNOC.

Regards

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**Hearing Identifier:** SouthTexas34Public\_EX  
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**Sent Date:** 5/29/2009 10:59:15 AM  
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**From:** Tai, Tom

**Created By:** Tom.Tai@nrc.gov

**Recipients:**  
"STPCOL" <STP.COL@nrc.gov>  
Tracking Status: None  
"Agles, James" <jaagles@STPEGS.COM>  
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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-\*\*\*

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-\*\*\*

Chemicals and Hazardous Materials:

RG 1.189 position 2.1 states that hazardous materials are not to be stored in safety-related areas. However, STP FSAR subsection 9.5.13.15 (COL License Information Item) allows "small quantities of chemicals, operations and maintenance consumables, may be stored in listed or approved cabinets and containers for immediate use." Please revise the FSAR to demonstrate compliance to RG 1.189, Rev. 1, Positions 2.1 and 7.5, as well as NFPA 30 and 55, or justify the alternative approach.

09.05.01-\*\*\*

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.

09.05.01-\*\*\*

## HVAC and Smoke Removal:

STP FSAR subsection 9.5.13.10 (COL License Information Item 9.27) and ABWR DCD subsection 9.5.1.1.5 and 9.5.1.1.6 discuss the HVAC system, Smoke Removal mode, and associated pressure calculations.

ABWR DCD subsection 9.5.1.1.6 references the use of ASHRAE's "Design of Smoke Control Systems for Buildings". Although the DCD did not reference NFPA 204 or UL 555 or UL 555S, these standards should be added to the FSAR to provide additional information to ensure the proper design, installation, and maintenance of dual purpose HVAC systems. The applicant is to update the FSAR to reference both standards.

ABWR DCD subsection 9.5.1.1.6 states that the COL applicant will (under COL License Information Item 9.27) calculate the "required differential pressure" for each smoke and fire barrier, that the HVAC system be designed according to those calculated values, and that a pre-operational test be performed to confirm the capability. However, STP FSAR subsection 9.5.13.10 only commits to developing a procedure for the pre-operational test prior to fuel load. The applicant is to update the FSAR subsection 9.5.1 or the Fire Hazards Analysis (Appendix 9A) to provide a description on how these pressure values were calculated. Included in the description of the methodology will be the consideration that the design pressures will maintain a reasonable assurance that the operators and fire brigade can open doors along egress and access routes.

RG 1.189 Position 4.1.4 states that "special protection for ventilation power and control cables may be necessary." In regards to the dual purpose HVAC system, the applicant is to update the FSAR to provide consideration and justifications for the protection of the power cables and control cables.

RG 1.189 Position 4.1.4 states that HVAC and smoke removal systems be provided with provisions to contain and/or monitor these releases for radiological materials for those vents/outlets from all potential radiological areas as described in RG 1.101. The applicant is to update the FSAR to describe this provision.

RG 1.189 Position 4.1.4 states that HVAC and smoke removal systems be designed such that air-intakes to important areas are located away from exhaust and smoke outlets. The applicant is to update the FSAR to describe this provision.

SECY-93-087 and SECY-90-016 include criteria that the design should ensure that smoke, hot gases, or fire suppressant will not migrate into other fire areas to the extent that safe shutdown could be adversely affected. ABWR DCD demonstrates compliance to this criteria and the STP COL incorporates by reference. However, the applicant has not provided any initial tests or ITAAC to demonstrate the compliance to meet smoke/hot gases/fire suppression migration requirements. Please update the FSAR to include these tests.

In addition, please provide a detailed description in the fire hazards analysis how to evaluate the potential for the migration of smoke, hot gases or fire suppressant to prevent safe shutdown, including any impact on the ability to access a fire area for manual suppression or, in the case of a control room evacuation, any impact on the ability to access and operate the remote shutdown panel.

Lastly, the applicant is to describe plans to verify that purchased components required for post fire safe-shutdown are not impacted by indirect effects of fire such as smoke migration from one fire area to another.