

March 30, 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. 89 RELATED TO
SRP SECTION 06.02.01.01.C 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.

If you have any questions or comments concerning this matter, I can be reached at 301-415-2849 or by e-mail at Stacy.Joseph@nrc.gov or you may contact George Wunder at 301-415-1494 or George.Wunder@nrc.gov.

Sincerely,

/RA/

Stacy K. Joseph, Project Manager
ESBWR/ABWR Projects Branch 2
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-012
52-013

eRAI Tracking No. 2310

Enclosure:
Request for Additional Information

cc:
William Mookhoek
James Tomkins
John Price

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NAME	ADrozd	MSnodderly	SJoseph	SKirkwood	GWunder
DATE	3/6/2009	3/10/2009	3/30/2009	3/23/2009	3/26/2009

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

OFFICIAL RECORD COPY

Request for Additional Information No. 2310 Revision 2

South Texas Project Units 3 and 4
South Texas Project Nuclear Operating Co.
Docket Nos 52-012 and 52-013
SRP Section: 06.02.01.01.C - Rev. 7 Pressure-Suppression Type BWR Containments
Application Section: 6.2.1.1.3

QUESTIONS for Containment and Ventilation Branch 2 (ESBWR/ABWR Projects) (SBCV)

06.02.01.01.C-8

6.2.1.1.1 Design Basis - **Supplement to RAI 06.02.01.01.C-2** : In support of performing independent confirmatory analysis, the following are requested additional information:

(a) Reactor Pressure Vessel

- Core channel flow rate during full power operation
- Core bypass flow rate during full power operation
- Loss coefficients for steam/water flow through the feedwater sparger and feedwater nozzle
- Approximate elevation of the Reactor Internal Pump (RIP) suction
- Design details of the core support plate (weight, thickness, diameter and distribution of holes in the core plate)
- Design details of the orificed and peripheral fuel supports (diameter of orifices and weight and height of the fuel supports)
- Length and inside diameter of control rod guide tubes
- Dimensions of the control rod (lengths of SS sheathed blades and absorber tubes, thickness of the blades, diameter of absorber tubes, and number of absorber tubes)
- Weights of SS and B4C in each control rod
- Weights of Zircaloy-4 and Zircaloy-2 in each fuel assembly
- Outside diameter of control rod housing
- Design details of the Top Guide (weight, thickness, diameter and distribution of holes in the core plate)
- Dimensions of the main steam line flow restricting nozzle
- Loss coefficient for steam/water flow through the main steam line flow restricting nozzle
- Discharge coefficient for steam/water flow through the main steam line flow restricting nozzle

Enclosure

(b) Fuel

- Weight of UO₂ per assembly
- Pitch of the fuel assemblies (or spacing between the fuel assemblies)
- Length of the fuel channel (Zircaloy-4 canister)
- Fuel channel inside dimensions and wall thickness
- Bottom elevation of the fuel channel
- Length and material of the fuel assembly nose piece
- Length of the active fuel
- Elevation of the bottom of active fuel (BAF)
- Diametrical gap between fuel pellet and cladding
- Length of gas plenum
- Fuel rod cladding thickness
- Fuel rod outside diameter
- Pitch of the fuel rods
- Fuel pellet density
- Fuel pellet diameter
- Fuel pellet length
- Flow area of fully open Main Steam Isolation Valve (MSIV)
- Flow resistance of open MSIV
- Discharge coefficient of open MSIV

(c) Engineered Safety Features

- Flow area of fully open ADS valve
- Loss coefficient and discharge coefficient for the fully open ADS valve
- Setpoint value of the drywell pressure at which reactor trip occurs
- Setpoint value of the main steam line steam flow rate at which reactor trip occurs

- Setpoints for the closure of MSIV
- Elevations and radial positions of the HPCF, LPCF and RCIC systems suction strainer in SP
- Elevations and radial positions of the SRV line quenchers in the SP
- Elevation and radial position of the exit of RCIC turbine steam exhaust line the SP

(d) Feedwater Line Break (FWLB):

- A figure showing the containment pressure and temperature response (i.e., Figures 6.2-6 and 6.2-7 in [reference 2] STP COLA with the time axis varying from 0.0 to 30 min)
- A decay power curve in Fig. 6.3-11 of [reference 2] STP COLA is normalized with respect to which power; operating power or 102 % of the operating the operating power?

(e) Main Steam Line Break (MSLB):

- A figure showing the containment pressure and temperature response (i.e., Figures 6.2-12 and 6.2-13 in [reference 2] STP COLA with the time axis varying from 0.0 to 30 min)