NRR-PMDAPEm Resource

From: Singal, Balwant
Sent: Thursday, January 09, 2014 9:30 AM
To: Harrison, Albon (awharrison@STPEGS.COM)
Cc: Guzzetta, Ashley; Stang, John; George, Andrea; 'Kee, Ernie' (keeej@STPEGS.COM); Ward, Leonard; Fong, CJ; Smith, Stephen
Subject: Request for Additional Information - TACs MF2400 through MF2409
Attachments: RELAP5-RAIs.docx

Wayne:

By letter dated June 19, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML131750250), STP Nuclear Operating Company (STPNOC, the licensee) for South Texas Project (STP), Units 1 and 2, submitted a request for exemptions and license amendment request (LAR) for a risk-informed approach to resolving generic safety issue (GSI)-191. The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the submittal and request for additional information (RAI) as detailed in the attachment.

Draft RAIs were issued on January 2, 2014. A clarification was held on January 6, 2014. For the sake of schedule, it was agreed that STP will respond to these RAIs at the earliest possible and not take normal 30 days to respond. Please treat this e-mail as transmittal of formal RAIs.

Please let me know if you have any questions.

Thanks.

Balwant K. Singal
Senior Project Manager (Comanche Peak and STP)
Nuclear Regulatory Commission
Division of Operating Reactor Licensing
Balwant.Singal@nrc.gov
Tel: (301) 415-3016
Fax: (301) 415-1222

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Recipients:
"Guzzetta, Ashley" <Ashley.Guzzetta@nrc.gov>
Tracking Status: None
"Stang, John" <John.Stang@nrc.gov>
Tracking Status: None
"George, Andrea" <Andrea.George@nrc.gov>
Tracking Status: None
"'Kee, Ernie' (keeej@STPEGS.COM)" <keeej@STPEGS.COM>
Tracking Status: None
"Ward, Leonard" <Leonard.Ward@nrc.gov>
Tracking Status: None
"Fong, CJ" <CJ.Fong@nrc.gov>
Tracking Status: None
"Smith, Stephen" <Stephen.Smith@nrc.gov>
Tracking Status: None
"Harrison, Albon (awharrison@STPEGS.COM)" <awharrison@STPEGS.COM>
Tracking Status: None

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REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST

RISK-INFORMED APPROACH TO RESOLVING GSI-191

SOUTH TEXAS PROJECT, UNITS 1 AND 2

DOCKET NOS. 50-498, 50-499

By letter dated June 19, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML131750250), STP Nuclear Operating Company (STPNOC, the licensee) for South Texas Project (STP), Units 1 and 2, submitted a request for exemptions and license amendment request (LAR) for a risk-informed approach to resolving generic safety issue (GSI)-191.

Title 10 of the *Code of Federal Regulations* (CFR) Section 50.46(a)(1)(i) states, in part:

> ECCS [Emergency Core Cooling System] cooling performance must be calculated in accordance with an acceptable evaluation model and must be calculated for a number of postulated loss-of-coolant accidents of different sizes, locations, and other properties sufficient to provide assurance that the most severe postulated loss-of-coolant accidents are calculated. Except as provided in paragraph (a)(1)(ii) of this section, the evaluation model must include sufficient supporting justification to show that the analytical technique realistically describes the behavior of the reactor system during a loss-of-coolant accident.

The ECCS evaluation model must also meet the specific requirements of 10 CFR 50.46(b)(1) and (50.46(b)(5), the ability of peak cladding temperature to remain below 2200 degrees Fahrenheit and sufficient long-term cooling of the reactor core, respectively.

In the LAR, STP uses the RELAP-3D code to perform thermal-hydraulic analyses and evaluate Loss-of-Coolant Accidents (LOCAs).

The NRC staff requests the licensee to provide the following:

1. RELAP-3D input decks for these cases with a 3-D vessel and 1-D core:
    a. Steady state case in Cold Leg
    b. Medium Break LOCA (6”) in Cold Leg
    c. Double-Ended Guillotine (DEG) Break in Cold Leg
    d. Core blockage input file
2. RELAP-3D input decks for these cases with a 3-D vessel and 3-D core:
    a. Steady state case in Cold Leg
    b. Medium Break LOCA (6”) in Cold Leg
    c. DEG Break in Cold Leg
    d. DEG Break in Cold Leg with maximum boron
    e. Core blockage input file
3. Conversion tables between RETRAN and RELAP-3D (“South Texas Project Power Plant RETRAN-RELAP-3D Conversion Tables”)
4. Documentation describing model verification (“South Texas Project Power Plant RELAP-3D Steady-state model verification”)