

## NRR-PMDAPEm Resource

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**From:** Paige, Jason  
**Sent:** Thursday, October 13, 2011 10:56 AM  
**To:** Hale, Steve  
**Cc:** Abbott, Liz; Tiemann, Philip  
**Subject:** Turkey Point EPU - Reactor Systems (SRXB) Requests for Additional Information - Round 3.3 (Part 3)

Steve,

Below is a follow-up request for additional information (RAI) regarding the Turkey Point Extended Power Uprate license amendment request. On October 11, 2011, the Nuclear Regulatory Commission (NRC) staff and Florida Power & Light Company (FPL) discussed the draft RAI to gain a common understanding of the question. The below RAI reflects the question discussed during the October 11, 2011, call. FPL agreed upon providing its response within 30 days of the date of this email. If you have any questions, feel free to contact me.

SRXB-3.3.1 RAI SRXB-2.3.1 (ADAMS Accession No. ML11263A204) requested validation of the departure from nucleate boiling (DNB)-protective OTΔT trip setpoint by means of a demonstration depressurization safety analysis. By letter dated September 30, 2011 (ADAMS Accession No. ML11276A080), the licensee provided the requested information, which was based on the conservative DNB analysis of an inadvertent safety valve opening. This is conservative because a safety valve has a higher relief capacity than the power operated relief valve (PORV). Figure SRXB-2.3.1-5 plotted the pressurizer level associated with this transient. The plot indicated a very sharp pressurizer surge that, if extrapolated, would reveal the pressurizer filling rather quickly.

The inadvertent PORV opening is an anticipated operational occurrence (AOO), and the information plotted in Figure SRXB-2.3.1-5 brings forth the concern that an inadvertent PORV opening could result in a pressurizer overflow condition. Such a condition could lead to an inability to isolate the PORV, resulting in a condition similar to a small break LOCA. This would not be an acceptable end result for an inadvertent opening of a PORV.

For additional information on anticipated transients that could develop into more serious events, refer to Regulatory Issue Summary 2005-29. In the present case, however, the operator action is not to shut off the ECCS, but rather to block the PORV.

Supplement the response to SRXB-2.3.1 to demonstrate that the pressurizer does not overflow. To address this concern, the staff recommends supplementing a thermal-hydraulic analysis of the reactor coolant system response to an inadvertent PORV (or, if additional conservatism is sought, a safety valve) opening with maximum safety injection with the following information. Identify the control-grade mitigating systems, structures, or components (SSCs), if any, that would terminate this event, and indicate their actuation signals and time of actuation. Also, identify the time of operator notification of the inadvertent PORV opening, and the actual signals that would notify the operator. Finally, discuss what operator actions would terminate this event, and discuss how long the operator would take to perform these actions. The thermal-hydraulic analysis should be of an unmitigated event, and it should run long enough to indicate the time from event initiation to pressurizer overflow.

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