

117

**From:** Mark King - *NRR*  
**To:** Asimios Malliakos - *RES*  
**Date:** Thu, May 31, 2007 1:24 PM  
**Subject:** Re: Request for compilation of data - on Power Uprates

RE: Jack Foster ask me to request if you could provide us a compilation of data, from January 2006 until present, on BWR operating experience under adverse flow effects during **extended power uprate (EPU) conditions**.

Asimios,  
I will try to do more searches on this information for you shortly.  
But in the mean time here's some info that may be helpful.

1) We have a **Power Uprate Technical Review Group (TRG)** includes:  
the **team lead: Thomas Alexion, NRR**  
and the following group members: Suggest you consider contacting some of them,  
Allen Hiser, NRR  
Samuel Miranda, NRR  
Paul Rebstock, NRR  
Thomas Scarbrough, NRR  
Cheng-Ih Wu, NRR  
George Thomas, NRR  
James Tatum, NRR  
Ralph Architzel, NRR  
Thomas Hafera, NRR  
Dan Orr, R1  
Rudolph Bernhard, R2  
Michael Kurth, R3  
Karla Stuedter, R3  
Les Cupidon, RES  
Shah Malik, RES  
Andrea Lee, RES  
Deborah Jackson, RES

2) The last Power Uprate TRG report was issued in Fall of 2006  
( <http://nrr10.nrc.gov/ope-info-gateway/trg-group-fall06.pdf> )  
it reads Cut and pasted below from page 72 of 86 (TRG section 19 of the report)  
TRG 19 - Power Uprates - Tom Alexion  
Current Interval (10/01/05 to 05/31/06)

During the bi-annual Technical Review Group analysis of Operating Experience (OpE), the Power Uprate Group reviewed the "Comms" posted on the forum from 10/01/05 to 05/31/06. Additionally, a search of LERs, Part 21 Reports, Inspection Findings, and International OpE was completed for the same time interval.

**No significant OpE events were found to be caused by power uprates.**

Follow-up from Previous Interval (a minimum search period of 1 year, ending on 10/01/05)  
There were 2 items that required follow-up by August 31, 2006. They are listing below using IOEB's numbering system and the status is as follows:

B. High Priority Follow-up (Yellow Ticket)

1. Power Uprate (TRG 19) - Flow-induced vibration problems including recent (12/21/05) electromatic relief valve issue and Quad Cities 2.

Follow-up: This Yellow Ticket was closed in a memorandum from C. Jackson to H. Nieh, dated 07/20/06 (ML062010505).

A-117

C. Medium Priority Follow-up

8. Power Uprate (TRG 19) - Human performance events related to power uprate.

Follow-up: This item was closed in a memorandum from C. Jackson to M. Ross-Lee, dated 08/09/06 (ML062190400).

There was also a previously issued Yellow Ticket (YT020050046, issued on 03/18/05) on the resolution of plant-specific and generic issues associated with ultrasonic flow meters (UFMs) used for measurement uncertainty recapture power uprate license amendments.

Follow-up: Caldon UFMs - NRC's re-examination of Caldon's Leading Edge Flow Measurement (LEFM) UFM found that those UFM's performance is consistent with previous NRC reviews, as document by NRC letter to Caldon dated 07/05/06 (ML061700222). Therefore, there is no need to follow-up with the licensees that use the Caldon LEFM UFMs.  
Westinghouse UFMs - NRC's re-examination of Westinghouse's Crossflow UFM is ongoing. The follow-up will be determined shortly after NRC's re-examination is complete.

3) Another report is due by June 15 contact Thomas Alexion (or Brett Rini) for the status of that report.

4) The Power Uprate related COMMs are available at the following link: **click below to view:**  
<http://nrr10.nrc.gov/forum/forum.cfm?selectedForum=03&forumId=EPU>

5) A keyword search for Power Uprate on the INPO SEE-IN data base was performed (19 hits) - **see attached, NOTE: the links in these search reports (pdf files) should be active- click to view more details.**

6) A keyword search of NRC inspection reports for "power uprate" (yielded 186 hits) - **see attached.**

7) A keyword search for "power uprate"NRC FINDINGS on the dynamic website (yielded 11 hits)- **see attached.**

That's all I have for now on the subject, I've got to run to the clearinghouse meeting.

Hope this helps,  
Mark

Mark King  
Senior Reactor Systems Engineer  
NRC/NRR/ADRO/DIRS/IOEB  
Operating Experience Branch  
301-415-1150

>>> Asimios Malliakos 5/31/2007 12:49 PM >>>  
Mark,

As I have discussed with you, Jack Foster ask me to request if you could provide us a compilation of data, from January 2006 until present, on BWR operating experience under adverse flow effects during extended power uprate (EPU) conditions. Since June 2002, failures and degradation of steam dryers and other components at several BWRs have resulted due to increased feedwater and steam flow rates associated with EPU operation.

Attached please find a compilation of these data before 2006. The attached document is only for NRC internal use.

Thank you  
Asimios

**CC:** Jack Foster; Jerry Dozier; John Thorp; Thomas Alexion

## Power Uprate Operating Experience Group Report

### Current Interval (06/01/06 to 03/31/07)

During the bi-annual Technical Review Group analysis of Operating Experience (OpE), the Power Uprate Group reviewed the "Comms" posted on the forum from 06/01/06 to 03/31/07. Additionally, a search of LERs, Part 21 Reports, Inspection Findings, and International OpE was completed for the same time interval.

No significant OpE events were found to be caused by power uprates.

### Follow-up from Previous Interval (10/01/05 - 05/31/06)

There was a previously issued Yellow Ticket (YT020050046, issued on 03/18/05) titled "Resolve the Generic Aspects of the UFM Closure." Ultrasonic flow meters (UFMs) are used for measurement uncertainty recapture power uprate license amendments, or for power recovery efforts that are implemented by licensees under 10 CFR 50.59.

Follow-up: Caldon UFMs - NRC's re-examination of Caldon's Leading Edge Flow Measurement (LEFM) UFM found that those UFM's performance is consistent with previous NRC reviews, as documented by NRC letter to Caldon dated 07/05/06 (ML061700222). Therefore, there is no need to follow-up with the licensees that use the Caldon LEFM UFMs.

Westinghouse UFMs - NRC's re-examination of Westinghouse's Crossflow UFM is ongoing. NRC found potential problems with this UFM, as documented by NRC letter to Westinghouse dated 03/13/07 (ML063330245), which enclosed the NRC's **non-public Draft** Safety Evaluation for a proprietary and accuracy check.

Yellow Ticket 020050046 was closed with the issuance of the above letters to Caldon and Westinghouse. Future plans include the issuance of the Final Safety Evaluation to Westinghouse and the issuance of a generic communication. The possible issuance of a generic communication is not public information at this time. The progress on the generic communication is being tracked by PGCB/NRR.