Doerflein, Lawrence

From: Brown, Frederick
Sent: Friday, May 20, 2011 7:13 AM
To: Sanfilippo, Nathan
Cc: Grobe, Jack; Doerflein, Lawrence; Giitter, Joseph; Westreich, Barry
Subject: FW: Heads up: Chairman request for BWR Mark I brief

See 2 highlighted sections below.

From: Doerflein, Lawrence
Sent: Thursday, May 19, 2011 6:37 PM
To: Circle, Jeff; Brown, Frederick; Lewin, Aron; Kobetz, Timothy
Cc: Cartwright, William; Westreich, Barry; Giitter, Joseph; Cheok, Michael; Nelson, Robert; Miller, Chris; Wilson, Peter; Lew, David; Dean, Bill; Roberts, Darrell; Clifford, James; Knutson, Ed; Richmond, John
Subject: RE: Heads up: Chairman request for BWR Mark I brief

Fred,

A little more background on the Fitz harden vent. Jeff is right, the original design was hard pipe from the torus and DW purge valves to the standby gas treatment system. The SBGTS is in a structure adjacent to the reactor building. Fitz did not make additional piping modifications to meet the BWROG design criteria (accepted in an internal memo dated March 30, 1990) that it be hard piped to an elevated release point. We accepted this is an SER dated September 28, 1992. The SER states that for a TW sequence, there is a chance SBGTS will be lost and the structure doors blown out (which would result in a ground release), and how this risk was acceptable compared to the cost of hard piping around the SBGTS (similar to what Pilgrim did).

The SER notes that "existing venting capability was expected to achieve the desired reduction in core damage frequency; however, the hardened vent path did not completely meet the hardened vent design criteria. As a result, FitzPatrick was allowed to integrate the results of its IPE program into its decision to fully implement the hardened vent design criteria."

An evaluation was done against the other BWROG design criteria, and the SER concluded "the NRC staff has determined that the current vent path meets the hardened vent design criteria **or their intent**."

So it is not the classic hardened vent, but we accepted it.

Second issue, I noticed in the SER it states "For the station blackout (SBO) accident scenario, ...Core damage occurs approximately 13 hours into the scenario with containment pressure remaining below the PCPL vent setpoint pressure of 44 psig. Therefore, the licensee has concluded that venting cannot be considered as a mitigative concept for a SBO event, under the guidance of the existing Emergency Operating Procedures. During SBO sequences, core damage is calculated to occur around 13 hours whereas the pressure necessary to reach the primary containment limit (PCPL) venting pressure occurs at approximately 20 hours."

I don't know if anything was changed regarding this since the SER was issued, but for a extended SBO, it doesn't sound like they will be able to get to the valves to operate when they need to because of radiation levels. This is the kind of issue I'm assuming the Task Force is evaluating.

Regards,

Larry

B/31

From: Circle, Jeff
Sent: Thursday, May 19, 2011 11:11 AM
To: Brown, Frederick; Lewin, Aron; Kobetz, Timothy
Cc: Cartwright, William; Westreich, Barry; Doerflein, Lawrence; Giitter, Joseph; Cheok, Michael; Nelson, Robert
Subject: RE: Heads up: Chairman request for BWR Mark I brief

Fred,

FitzPatrick has had hard pipe vent most of the way to the SGTS in their original design. However, the licensee (NY Power Authority) declined to further modify the system to be in line with the rest of the Mark I fleet. A risk analysis was performed to show that on "TW sequences", loses of containment heat removal, that having some vulnerability of ductwork failure as a consequence of venting would be acceptable. The initiating events and random failures were taken from the Individual Plant Examination (IPE) and considered internal events only.

In comparison with Fukushima, the main difference is that the FitzPatrick analysis assumed that containment venting would be performed early on, before the onset of core damage. So, it was assumed that there wouldn't be a large amount of hydrogen or fission products present. Also, I recall that any failed ductwork was shown not to impact important, risk-relevant SSCs in the Reactor Building. Venting was still recognized as an important action so, the operation of the wetwell vent valves were changed with an EOP support procedure to allow for local non-powered operation. In any event, The Authority did not perform any modification of the piping, we (NRC) inspected it, and was found acceptable, all around the November 1991 timeframe.

I hope that this will clarify it, from one of the racked-out grey-beards! If you have any questions, please feel free to ask me.

Jeff.

From: Brown, Frederick
Sent: Thursday, May 19, 2011 10:03 AM
To: Lewin, Aron; Kobetz, Timothy
Cc: Cartwright, William; Westreich, Barry; Doerflein, Lawrence; Giitter, Joseph; Cheok, Michael; Nelson, Robert; Circle, Jeff
Subject: RE: Heads up: Chairman request for BWR Mark I brief

While on-shift in the OpCenter, Jeff Circle told me that Fitz had not put hardened vent in – that when he worked for the licensee they had done a (risk?) evaluation that demonstrated it was not justified.

From: Lewin, Aron
Sent: Thursday, May 19, 2011 8:52 AM
To: Kobetz, Timothy
Cc: Lewin, Aron; Cartwright, William; Brown, Frederick; Westreich, Barry; Doerflein, Lawrence
Subject: FW: Heads up: Chairman request for BWR Mark I brief

Tim,

As discussed, the DORL research indicates that Fitzpatrick has a hardened vent. At first glance, this appears to contradict with information found in the TI 2515/183 report for the plant.

Thanks,
Aron
X2259

From: Cartwright, William
Sent: Thursday, May 19, 2011 8:11 AM

To: Lewin, Aron; Cauffman, Christopher
Subject: FW: Heads up: Chairman request for BWR Mark I brief

Interesting to note that DORL research indicates that Fitzpatrick has a hardened vent.

Maybe it was painted a different color, and the inspectors didn't recognize it . . .

From: Brown, Frederick
Sent: Thursday, May 19, 2011 7:05 AM
To: Ashley, MaryAnn; Cartwright, William; Elliott, Robert; Franovich, Rani; Kobetz, Timothy; McHale, John; Shoop, Undine; Thorp, John; Westreich, Barry
Subject: FW: Heads up: Chairman request for BWR Mark I brief

FYI

From: Giitter, Joseph
Sent: Wednesday, May 18, 2011 5:58 PM
To: Collins, Timothy
Cc: Givvines, Mary; Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Galloway, Melanie; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Nelson, Robert; Ruland, William; Skeen, David; Westreich, Barry
Subject: RE: Heads up: Chairman request for BWR Mark I brief

Tim- Mary Givvines—the current LT Chair—sent this out to the LT members. I think you hit the major points. I'm resending the table that documents the fact that the vast majority of the BWR Mark I plants have implemented all of the safety enhancements recommended in GL 89-16.

From: Givvines, Mary
Sent: Wednesday, May 18, 2011 5:32 PM
To: Bahadur, Sher; Blount, Tom; Brown, Frederick; Cheok, Michael; Galloway, Melanie; Giitter, Joseph; Givvines, Mary; Hiland, Patrick; Holian, Brian; Howe, Allen; Lee, Samson; Lubinski, John; McGinty, Tim; Nelson, Robert; Ruland, William; Skeen, David; Westreich, Barry
Subject: FW: Heads up: Chairman request for BWR Mark I brief

For your awareness.

From: Collins, Timothy
Sent: Wednesday, May 18, 2011 5:28 PM
To: Ruland, William; Leeds, Eric; Bahadur, Sher; Weerakkody, Sunil
Cc: Boger, Bruce; Givvines, Mary; Brown, Frederick; Cheok, Michael; Miller, Charles; Jones, Steve; Bowman, Eric; Dinsmore, Stephen
Subject: RE: Heads up: Chairman request for BWR Mark I brief

Attached is my recommendation for the briefing

From: Ruland, William
Sent: Tuesday, May 17, 2011 5:25 PM
To: Leeds, Eric; Bahadur, Sher; Weerakkody, Sunil
Cc: Collins, Timothy; Boger, Bruce; Givvines, Mary; Brown, Frederick; Cheok, Michael
Subject: Re: Heads up: Chairman request for BWR Mark I brief

We have had further discussions with Charlie Miller and left a msg w/Tom Hipshmann for additional info/backgnd.
Bill Ruland, from
USNRC Blackberry

From: Leeds, Eric
To: Ruland, William; Bahadur, Sher; Weerakkody, Sunil
Cc: Collins, Timothy; Boger, Bruce; Givvines, Mary; Brown, Frederick; Cheok, Michael
Sent: Tue May 17 17:14:49 2011
Subject: RE: Heads up: Chairman request for BWR Mark I brief

I've asked the Chairman's office to reserve Monday 10 to noon. We may need Bill or Bruce to support. Both Marty and I will be out of the office the first part of next week.

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-1270

From: Ruland, William
Sent: Tuesday, May 17, 2011 11:26 AM
To: Bahadur, Sher; Weerakkody, Sunil
Cc: Collins, Timothy; Leeds, Eric; Boger, Bruce; Givvines, Mary; Brown, Frederick; Cheok, Michael
Subject: FW: Heads up: Chairman request for BWR Mark I brief

Guys,

Please take the lead for this briefing and get support from others as needed. The proposed times are this Friday from 3:30 to 5:30 p.m., and Monday either from 10 to noon or 3:00 to 5:00 p.m.

Mary, I'm providing this to you for LT information.

Bill

From: Wiggins, Jim
Sent: Tuesday, May 17, 2011 11:12 AM
To: Leeds, Eric
Cc: Boger, Bruce; Ruland, William
Subject: RE: Heads up: Chairman request for BWR Mark I brief

This will be an opportunity to recapture all the stuff in the Mk I loads program of the 80s for KM purposes..... Might be challenged by all the stuff that existed prior to ADAMS...

Rack out the greybeards.....

From: Leeds, Eric
Sent: Tuesday, May 17, 2011 11:02 AM
To: Virgilio, Martin
Cc: Weber, Michael; Borchardt, Bill; Boger, Bruce; Ruland, William; Wiggins, Jim
Subject: Heads up: Chairman request for BWR Mark I brief

Marty –

The Chairman has requested an "extended" brief that focuses on responding to the question< "Why should BWR Mark I plants be allowed to continue to operate?" Tom Hipschman called me this morning and requested that we set up a brief that goes for 1.5 – 2 hours on the subject. I don't have a clear idea of how much the Chairman knows about the basic

technology of a BWR or the containment enhancements we've implemented. Tom seemed to think that you or I should attend the brief and I'll be in Switzerland for the IRRS bag-man trip.

NRR will put together a small team of folks to discuss basic BWR design info, Mark I enhancements, SFP arrangement, SAMGs, and a little bit on the differences between the Iso condenser and HPCI/RCIC designs. We'll see if we can get the meeting on your calendar.

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
301-415-1270