

From: Lane, John
To: Dennis, Robert
Cc: Correia, Richard; Beasley, Benjamin; Bettle, Jerome; Notafrancesco, Allen; Lee, Richard; Shelton, Brian; Basu, Sudharnav; Karjaneeni, Nagaswara; Collins, Timothy; Siemel, Beth
Subject: Not all Mark I's have GL-grade hardened vents
Date: Tuesday, March 13, 2012 7:22:00 PM

Fitzpatrick Mark I doesn't have a hardened vent.

In response to GL 89-16, Fitzpatrick, a Mark I, begged off installing a hardened vent in deference to the upcoming IPE program. The GL applied to already identified generic severe accident vulnerabilities at Mark I's while IPE's were essentially our second bite of the apple going after plant specific severe accident vulnerabilities. Fitz needed the 24" vent line from the wetwell to get the job done. What they had going for them was the unusual situation that the SGTS is (b)(4) (b)(4) and so the piping to that point was good for 150 psig. Beyond that, the vent system did not meet the GL, specifically, because (1) it couldn't contain hydrogen, there were ignition sources in the SGTS room which could cause combustion and damage backwards into the reactor building, and (2) the SGTS sheet metal piping was no good at the higher pressures so it would blow resulting in, not a stack release, but a ground level one, both deviations from the GL spec. On top of that, the licensee only analyzed operator response using the 2" line, not the required 24" line, and the system required remote manual valve actuations.

We bought their argument (microfiche address 56551:237-247).

In their subsequent IPE submittal NYPA stated:

"While containment venting through either the torus or drywell paths (20- or 24-in. lines) will rupture the transition piece from the hard piping portion of the vent path and the SGTS ductwork, the failure of this piece on high pressure venting will not damage other plant equipment, because the piece is located outside the reactor building pressure boundary. Therefore, the survivability of vital plant equipment are not compromised by releases within the reactor building that result from primary containment venting." (boldface is mine)

Our IPE team found it necessary to do a Tier 2 review, a more detailed review of the Fitz IPE submittal due to IPE quality concerns, and we generally found that they resisted other CPI fixes as well, like the backup firewater supply to the Rx vessel. Oh, and they rejected our hardened vent backfit analysis too.

We stated in our SER in response to the IPE submittal:

"The FitzPatrick IPE addressed containment venting as a means by which the conditional probability of containment failure (and subsequent core damage) can be reduced, in addition to supporting mitigation of severe accidents. Containment venting reduced the core damage frequency at FitzPatrick by an estimated factor of 14.

Containment venting procedures require hard pipe venting of the wetwell air space anytime the containment pressure exceeds 44 psig. The vent path at FitzPatrick utilizes piping from the containment to the inlet transition piece of the Standby Gas Treatment System (SBGT) filter train. Because the transition piece is located outside the reactor building pressure boundary, failure of the transition piece upon containment venting is limited to the SBGT system. **The survivability and accessibility of vital plant equipment is, therefore, not compromised by failure of the transition piece.**

Wetwell venting will normally be initiated at the primary containment and purge (PCP) panel

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located in the relay room. **For accident sequences in which motive power is unavailable to the valves, the operators are expected to locally hand-wheel the valves open (as our Japanese colleagues would likely say, good luck with that!).** Venting of the containment is accomplished using AOP-35 "Post Accident Venting of the Primary Containment." This procedure instructs the operator to **vent the containment regardless of the radiological consequences.** The procedure (for which operators have been trained) is entered from EOP-4 "Primary Containment control" before the containment pressure exceeds 44 psig.

During the plant visit, the staff reviewed the modeling of wetwell venting in the IPE, examined AOP-35 and EOP-4 with plant operations personnel and walked through the process of implementing AOP-35 from both the PCP panel and locally at each valve. The staff concludes that the wetwell venting function is appropriately modeled in the licensee's IPE analysis."

So, in summary, there are GL-hardened vents and there are Fitz-hardened vents.

jcl

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Gray, Mel

From: Bickett, Brice
Sent: Thursday, September 20, 2012 11:16 AM
To: Gray, Mel
Subject: G20110343 - Bickett Entergy Fleet Briefing.docx
Attachments: G20110343 - Bickett Entergy Fleet Briefing.docx

Easier to view with tracked changes turned off since there is significant revision

Recommend informing Alan of the following also:

(b)(5)

Brice

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**THE FOLLOWING 83 PAGES ARE BEING WITHHELD IN
THEIR ENTIRETY PURSUANT TO EXEMPTION 5**