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Monninger, John

From: Monninger, John
Sent: Wednesday, September 05, 2012 12:37 PM
To: Russell, Andrea; Vaidya, Bhalchandra
Subject: RE: G20120172 (Fitzpatrick 2.206): PRB Internal Meeting Notes on Initial Recommendation based on 3rd meeting and comments from John and OGC (TAC ME8189)
Attachments: With comments from Monninger and OGC addressed-ME8189 (G20120172) Final PRB Notes 08-23-2012.docx

Andrea, Bhalchandra:

I concur. The attached file contains a few minor editorial changes for your consideration. Also, I provided a comment regarding our response to Question 3 (page 5) on whether the petition meets the requirements for review.

(b)(5)

(b)(5)

Thanks for your efforts,
John M.

From: Russell, Andrea
Sent: Tuesday, September 04, 2012 7:11 AM
To: Lee, Samson; Bickett, Brice; Doerflein, Lawrence; Jennerich, Matthew; Dennig, Robert; Fretz, Robert; Jefferson, Steven; Eul, Ryan; Monninger, John; McIntyre, David; Collins, Timothy; Cook, William; McCarver, Sammy; Lemoncelli, Mauri; Miranda, Samuel
Cc: Vaidya, Bhalchandra; Thadani, Mohan; Pelton, David
Subject: RE: G20120172 (Fitzpatrick 2.206): PRB Internal Meeting Notes on Initial Recommendation based on 3rd meeting and comments from John and OGC (TAC ME8189)

Good morning,

I have not received comments or concurrences from the majority of the PRB members. In order to move forward with the initial recommendation, we need consensus from the PRB. **Please reply to Bhalchandra and myself stating that either you concur on the attached or that you have comments by COB Thursday September 6th.**

Thanks,
Andrea
2.206 Coordinator

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From: Russell, Andrea
Sent: Thursday, August 23, 2012 8:29 AM
To: Lee, Samson; Bickett, Brice; Doerflein, Lawrence; Jennerich, Matthew; Dennig, Robert; Ulses, Anthony; MorganButler, Kimyata; Fretz, Robert; Jefferson, Steven; Eul, Ryan; Safford, Carrie; Monninger, John; McIntyre, David; Collins, Timothy; Scott, Catherine; Albert, Michelle; Cook, William; McCarver, Sammy
Cc: Vaidya, Bhalchandra; Thadani, Mohan
Subject: G20120172 (Fitzpatrick 2.206): PRB Internal Meeting Notes on Initial Recommendation based on 3rd meeting and comments from John and OGC (TAC ME8189)

Good morning,

On behalf of Bhalchandra, I am providing you with the revised Final PRB internal meeting notes on the initial recommendation, for your review. These meeting notes have been updated since the last meeting on July 19, 2012, to incorporate changes from OGC and John Monninger. The changes are shown in tracked format.

C/37 R

Please provide your comments/concurrence on the notes to myself and Bhalchandra by COB Thursday August 30th.

Thank you for your time,
Andrea
2.206 Coordinator

Andrea Russell
Project Manager
Nuclear Regulatory Commission
NRR/DPR/PGCB
Ph: 301-415-8553

10 CFR 2.206

PRB Closed Meeting Notes – 07/19/2012

SUBJECT: GUNTER ET AL. 2.206 REQUESTING ENFORCEMENT ACTION
AGAINST JAMES A. FITZPATRICK PLANT (G20120172) (TAC ME8189)

PETITIONER: Paul Gunter, et al

DATE: March 9, 2012, the supplements dated March 13, and March 20, 2012,
and Petitioners' Presentations to the PRB in the Public Meeting on
April 17, 2012.

PRB MEMBERS & ADVISORS

Samson Lee	(PRB Chair – Deputy Director, NRR, Division of Risk Assessment)
Bhalchandra Vaidya	(Petition Manager – NRR, Division of Operating Reactor Licensing)
Sam Miranda	(Branch Chief(A) – NRR, Division of Safety Systems, Reactor Systems Branch)
Robert Dennig	(Branch Chief – NRR, Division of Safety Systems, Containment and Ventilation Branch)
Robert Fretz	(Senior Project Manager – NRR, Japan Lessons Learned Project Directorate, Projects Management Branch)
John Monninger	(Associate Director – NRR, Japan Lessons Learned Project Directorate)
Andrea Russell	(Agency 2.206 Coordinator – NRR, Division of Policy and Rulemaking)
David Pelton	(Branch Chief – NRR, Division of Policy and Rulemaking, Generic Communications Branch)
Brice Bickett	(Senior Project Manager – Region 1, Branch 2, Division of Reactor Projects)
Mathew Jennerich	(Project Engineer – Region 1, Branch 2, Division of Reactor Projects)
Lawrence Doerflein	(Branch Chief – Region 1, Branch 2, Division of Reactor Safety)
Ryan Eul	(Enforcement Specialist – Office of Enforcement)
Mauri Lemoncelli	(Senior Attorney – Assistant General Counsel – Materials Litigation and Enforcement – Office of General Counsel)

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SUMMARY OF REQUEST:

On March 9, 2012, as supplemented March 13 and March 20, 2012, Mr. Paul Gunter, et. al., submitted a joint petition to the NRC, under Title 10 of the *Code of Federal Regulations*, Part 2.206, regarding James A. FitzPatrick Nuclear Power Plant (FitzPatrick).

The joint petitioners request that the FitzPatrick operating license be immediately suspended as the result of the undue risk to the public health and safety presented by the operator's reliance on non-conservative and wrong assumptions that went into the analysis of the capability of FitzPatrick's pre-existing ductwork containment vent system. The joint petitioners state that the risks and uncertainty presented by FitzPatrick's assumptions and decisions, in regard to NRC Generic Letter 89-16, as associated with the day-to-day operations of this nuclear power plant now constitute an undue risk to public health and safety. The joint petitioners request that the suspension of the operating license be in effect pending final resolution of a public challenge to the adequacy of the pre-existing vent line in light of the Fukushima Daiichi nuclear accident. The joint petitioners do not seek or request that FitzPatrick operators now install the Direct Torus Vent System (DTVS) as it is demonstrated to have experienced multiple failures to mitigate the severe nuclear accidents at Fukushima Daiichi.

The joint petitioners request that the NRC take action to suspend the FitzPatrick operating license immediately until the following emergency enforcement actions are enacted, completed,

reviewed, and approved by the NRC and informed by independent scientific analysis:

- 1) Entergy Nuclear Operations' FitzPatrick nuclear power plant shall be subject to public hearings with full hearing rights on the continued operation of the Mark I BWR and the adequacy and capability of a pre-existing containment vent which is not a fully hardened vent line as recommended by NRC Generic Letter 89-16. As such, the FitzPatrick operator uniquely did not make containment modifications and did not install the DTVS, otherwise known as "the hardened vent," as requested by NRC Generic Letter 89-16 and as installed on every other GE Mark I in the US;
- 2) Entergy Nuclear Operations shall publicly document for independent review its post-Fukushima re-analyses for the reliability and capability of the FitzPatrick pre-existing containment vent system as previously identified as "an acceptable deviation" from NRC Generic Letter 89-16 which recommended the installation of the Direct Torus Vent System and as outlined in the NRC Safety Evaluation Report dated September 28, 1992. The publicly documented post-Fukushima analysis shall include the reassessment of all assumptions regarding the capability and reliability of the pre-existing containment venting and specifically address non-conservative assumptions regarding:
 - a) the FitzPatrick cost-benefit analysis used to justify not installing a fully hardened vent system and;
 - b) "unlikely ignition points" as claimed in the FitzPatrick pre-existing vent line system that would otherwise present increased risks and consequences associated with the detonation of hydrogen gas generated during a severe accident.

In the March 20, 2012, supplement to the petition, the joint petitioners state that the Temporary Instruction 2515/183 provides the NRC inspection results in the "Follow-up to the Fukushima Dai-ichi Nuclear Station Fuel Damage Event." The joint petitioners draw attention to what is described at page 8 of the enclosure as an "apparent beyond design and licensing basis vulnerability" involving the FitzPatrick operator's refusal to install the DTVS as recommended by NRC in Generic Letter 89-16.

To summarize the supplement, the joint petitioners state that:

- The Commission's March 12, 2012, Order states that "Current regulatory requirement and existing plant capabilities allow the NRC to conclude that a sequence of events such as the Fukushima Dai-ichi accident is unlikely to occur in the US. Therefore, continued operation and continued licensed activities do not pose an imminent threat to public health and safety." The Order further states, "While not required, hardened vents have been in place in U.S. plants with BWR Mark I containments for many years but a wide variance exist with regard to the reliability of the vents."
- The NRC inspection report identifies that FitzPatrick's "existing plant capabilities" and "current procedures do not address hydrogen considerations during primary containment venting" which is further identified as a "current licensing basis vulnerability." The joint petitioners further reiterate that the NRC inspection finding that FitzPatrick's "existing plant capabilities" as assumed by the Order are in fact negated by the finding that "FitzPatrick's current licensing basis did not require the plant to have a primary containment torus air space hardened vent system as part of their Mark I containment improvement program."

- The Commission Order timeline setting December 31, 2016, for installing the reliable hardened vent does not address in a timely way the unique condition of FitzPatrick.
- FitzPatrick uniquely does not have a fully hardened vent system on the vulnerable Mark I containment. As a result, FitzPatrick's current capability is identified with "a beyond design and licensing bases vulnerability, in that FitzPatrick's current licensing basis did not require the plant to have a primary containment torus air space hardened vent system as part of their Mark I containment improvement program." Given that the FitzPatrick unit willfully refused to install the DTVS, the documented discovery of the "licensing basis vulnerability" of its chosen pre-existing vent now uniquely warrants the suspension of operations pending closer scrutiny, public hearings, and full disclosure for its adequacy and capability in the event of a severe accident. The additional identified "vulnerability" and the relatively remote and uncertain mitigation strategy places the public health and safety unduly and unacceptably at risk by the continued day-to-day operations where "current procedures do not address hydrogen considerations during primary containment venting" and will not for nearly five (5) more years.

BASIS FOR THE REQUEST:

As a basis for the request, the joint petitioners' state that in light of the multiple failures of the GE Mark I containment and hardened vent systems at the Fukushima Daiichi nuclear power station in the days following the March 11, 2011, station black out event, the joint petitions seek the prompt and immediate suspension of the FitzPatrick operations because:

- The GE Mark I BWR pressure suppression containment system is identified as inherently unreliable and likely to fail during a severe accident.
- The capability of FitzPatrick's pre-existing containment vent as approved for severe accident mitigation is not a fully "hardened vent" system.
- The capability of FitzPatrick's pre-existing containment vent as approved relies upon non-conservative and faulty assumptions.
- The capability of FitzPatrick's pre-existing containment vent system uniquely allows for a severe nuclear accident to be released at ground level.
- The Fukushima Daiichi nuclear catastrophe dramatically and exponentially changes the FitzPatrick cost-benefit analyses.
- The continued day-to-day reliance upon the significantly flawed pre-existing containment vent system as would be relied upon to mitigate a severe accident at the FitzPatrick Mark I reactor presents an undue risk to the public health and safety.
- The identified containment vulnerability, the non-conservative if not false assumption of "no likely ignition sources" in the pre-existing vent line and the unacceptable consequences of failure of the FitzPatrick pre-existing containment vent place both greater uncertainty and undue risk on public health and safety and are not reasonably justified by arbitrarily assigning a low probability of the occurrence of a severe accident.

IS THERE A NEED FOR IMMEDIATE ACTION: (If Yes, describe)

NO.

In its internal meeting on March 20, 2012, the PRB found that there is no immediate safety concern to FitzPatrick, or to the health and safety of the public and therefore, denied the request for emergency enforcement action based on the following considerations:

1. The Near-Term Task Force (NTTF), established by the NRC in response to the Fukushima Daiichi nuclear event, concluded in its report dated July 12, 2011, that continued nuclear reactor operation and licensing activities do not pose an imminent risk to the public

health and safety and are not inimical to the common defense and security because of the low likelihood of an event beyond the design basis at a U.S. nuclear power plant and the current mitigation capabilities at those facilities; ~~the~~ The Commission has endorsed the NTF Report, including its conclusions as evident by the Commission Voting Record Staff Requirements Memorandum for Decision Item SECY-11-0093, dated August 19, 2011, and.

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2. On March 12, 2012, the NRC ordered licensees of BWR facilities with Mark I and Mark II containments to have reliable hardened containment vents (EA-12-050). This order was based on the Commission's direction provided by the Staff Requirements Memorandum (SRM) to SECY-12-0025, dated March 9, 2012. The order stated that:

Current regulatory requirements and existing plant capabilities allow the NRC to conclude that a sequence of events such as the Fukushima Dai-ichi accident is unlikely to occur in the U.S. Therefore, continued operation and continued licensing activities do not pose an imminent threat to public health and safety. However, the importance of reliable operation of hardened vents during emergency conditions was already well established and this understanding has been reinforced by the clear lessons of Fukushima. While not required, hardened vents have been in place in U.S. plants with BWR Mark I containments for many years but a wide variance exists with regard to the reliability of the vents. Additionally, hardened vents are not required on plants with BWR Mark II containments although as discussed above, Mark II containments are only slightly larger than Mark I. Reliable hardened venting systems in BWR facilities with Mark I and Mark II containments are needed to ensure that adequate protection of public health and safety is maintained.

3. The NRC staff was aware of the conclusions presented in its Safety Evaluation (SE) dated September 28, 1992, for Fitzpatrick with respect to GL 89-16, and considered this information in its overall assessment on whether or not BWR facilities with Mark I and Mark II containments were safe to operate following the events at Fukushima. ~~In addition, the~~ The NRC inspected the design of the Fitzpatrick hardened wetwell vent system and documented the results in an inspection report (50-333/95-06) issued April 18, 1995. The NRC staff was cognizant of and reviewed the results of inspections performed under TI 183 at FitzPatrick (Report dated May 13, 2011, ADAMS Accession No. ML111330455) following the events at Fukushima. ~~The regional staff has communicated with NTF regarding the Vent system configuration at FitzPatrick, including the differences from GL 89-16 recommendations (Larry Doerflein e-mail).~~ In issuing the March 12, 2012, order, the NRC staff explicitly recognized the wide variance in the reliability of hardened vent designs among Mark I plants. The design at Fitzpatrick is one example of that variance. The petition for emergency enforcement action provided no new additional information relating to the existing containment venting capability of the Fitzpatrick plant.

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DOES IT MEET CRITERIA FOR REVIEW?

Criteria for Reviewing Petitions Under 10 CFR 2.206:

1. The petition contains a request for enforcement-related action such as issuing an order modifying, suspending, or revoking a license, issuing a notice of violation, with or without a proposed civil penalty.

YES.

2. The facts that constitute the bases for taking the particular action are specified. The petitioner must provide some element of support beyond the bare essentials. The

supporting facts must be credible and sufficient to warrant further inquiry.

YES.

- 3. There is no NRC proceeding available in which the petitioner is or could be party and through which the petitioner's concerns could be addressed.

YES. (On May 9, 2012, Beyond Nuclear Petitioner withdrew its April 3, 2012 Pleading and Request for Relief with the Bldg. Vent on the Fukushima-related Orders pertaining to hardened vents and spent fuel pool instrumentation. Subsequently, the ASLEB on the Bldg. Vent was requested on 5/10/12.)

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Criteria for Rejecting Petitions Under 10 CFR 2.206:

- 1. The incoming correspondence does not ask for an enforcement-related action or fails to provide sufficient facts to support the petition, but simply alleges wrongdoing, violations of NRC regulations, or existence of safety concerns.

YES, in part.

- 2. The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question.

YES, in part.

On March 12, 2012, the NRC ordered licensees of BWR facilities with Mark I and Mark II containments to have reliable hardened containment vents (EA-12-050). This order was based on the Commission's direction provided by the Staff Requirements Memorandum (SRM) to SECY-12-0025, dated March 9, 2012.

Accept on the basis of the staff's ongoing review of NTF Recommendation 5.1 and Recommendation 6. Recommendation 5.1 orders licensees to include a reliable hardened vent in BWR Mark I and Mark II containments for the prevention of core damage. This order included performance objectives for the design of hardened vents to ensure reliable operation and ease of use (both opening and closing) during a prolonged SBO. Recommendation 6 recommends, as part of the longer term review, that the NRC identify insights about As discussed in SECY-12-0025, the staff determined that consideration of severe accident conditions in the design and operation of the hardened vent involved policy matters that are still under consideration by the staff. As such, venting under severe accident conditions is currently being evaluated by the staff on a generic basis. The staff is also evaluating NTF Recommendation 6 concerning hydrogen control and mitigation inside containment or in other buildings as additional information is revealed through further study of the Fukushima Dai-ichi accident. As such, the design of hardened vent systems to handle hydrogen gas is currently being evaluated by the staff on a generic basis.

FitzPatrick's response to the GL 89-16 was also reviewed and approved by the NRC in September 1992, including the staff review of the licensee's processes and procedures, and inspections. The NRC staff evaluation stated, while approving FitzPatrick's positions with regard to GL-89-16, that FitzPatrick's containment vent system met the design bases and the design intent of GL 89-16. In addition, the NRC inspected the design of the Fitzpatrick hardened wetwell vent system and documented the results in

Comments: This petition asks further... currently... separate... proceeding... whether there was... or not.

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an inspection report (50-333/95-06) issued April 18, 1995.

With respect to Fukushima accident, the ~~NITF evaluation and the subsequent Commission Order have~~ NRC has concluded that a sequence of events such as the Fukushima Dai-ichi accident is unlikely to occur in the U.S. Therefore, continued operation and continued licensing activities do not pose an imminent threat to public health and safety.

3. The request is to deny a license application or amendment. **NO.**

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4. The request addresses deficiencies within existing NRC rules. **NO.**

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IS THERE A NEED FOR OE, OI, OIG, or OGC INVOLVEMENT:

The petition does not contain any allegations of licensee or NRC staff wrongdoing. However, the PRB includes representatives from OE and OGC.

RECOMMENDED APPROACH AND SCHEDULE (Next Steps):

Accept, in part, and hold in abeyance the following parts of the petition addressing containment venting under severe accident conditions and the design of vent systems being able to accommodate hydrogen gas (Issue Nos. 5(b), 7, and 11 in the Table) (see Table for a detailed explanation).

Three of the issues in the petition, identified and discussed as Issue Nos. 5(b), 7, and 11 in the Table, will be accepted for review by the NRC staff. However, as indicated in the Table, the NRC staff notes that these concerns are undergoing NRC review as part of the lessons-learned from the Fukushima event. Even though the Commission has issued the Order concerning ~~Hardened Vent~~ reliable hardened vent for accident prevention, the NRC/JLD staff is conducting further review of additional aspects of the ~~Hardened Vent System~~ hardened vent system, such as ~~filtration~~ venting under severe accident conditions. In addition, the staff is evaluating hydrogen control and mitigation measures. Since Issue Nos. 5(b), 7, and 11 in the Table will take longer than the target timeframe for reaching a decision on a petition, the NRC plans on accepting those issues, and holding them in abeyance.

All the other issues in the petition, identified and discussed in the Table are denied for the reasons discussed in the Table

The next steps would be to:

- Ensure management agrees with the PRB initial recommendation.
- Inform the petitioners of the PRB's initial recommendation.
- Provide the second opportunity for the petitioners to address the PRB, and make the arrangements for an acceptable date and time.

Table (This table summarizes each issue for the following criteria).

Issue No.	Specific Issue Raised	Does this meet criteria for review under 2.206 process?	Recommendation
1	<p>FitzPatrick operating license be immediately suspended as the result of the undue risk to the public health and safety presented by <u>the operator's reliance on non-conservative and wrong assumptions that went into the analysis of the capability of FitzPatrick's pre-existing ductwork containment vent system.</u> The risks and uncertainty presented by FitzPatrick's assumptions and decisions, in regard to NRC Generic Letter 89-16, as associated with the day-to-day operations of this nuclear power plant now constitute an undue risk to public health and safety.</p>	No.	<p>The NTF and JLD in the Commission Order have concluded that the NRC concluded that a sequence of events like the Fukushima accident is unlikely to occur in the United States and some appropriate mitigation measures have been implemented, reducing the likelihood of core damage and radiological releases. Therefore, continued operation and continued licensing activities do not pose an imminent risk to public health and safety and there is no immediate safety concern to FitzPatrick, or to the health and safety of the public, and therefore, the request for immediate action should be rejected. The Petitioners have not provided an adequate basis for their argument regarding the operator's reliance on non-conservative and wrong assumptions that went into the analysis of the capability of FitzPatrick's pre-existing ductwork containment vent system.</p> <p><u>The petitioner's concerns regarding this issue do not require immediate shutdown of FitzPatrick based on the conclusions reached by NTF the NRC and the Commission Order regarding Reliable Hardened Vent for the US GE Mark I BWRs.</u></p> <p>U. S. plants have implemented "beyond-design-basis" requirements such as ATWS, SBO, combustible gas control, aircraft impact assessment, mitigation of major fires or explosions, and extensive</p>

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Issue No.	Specific Issue Raised	Does this meet criteria for review under 2.206 process?	Recommendation
			<p>damage mitigation guidelines, thereby reducing the likelihood of core damage and radiological releases. A sequence of events like those occurring in the Fukushima accident is unlikely to occur at US GE Mark I BWRs.</p> <p>The NRC based on the NTTF report on July 12, 2011, based on review of insights from the Fukushima Dai-ichi accident, made a recommendation to the Commission to include a reliable hardened vent system.</p>
2	The suspension of the operating license be in effect pending final resolution of a public challenge to the adequacy of the pre-existing vent line in light of the Fukushima Dai-ichi nuclear accident.	No.	This is merely a statement to support the petition in general. This is not an enforcement related action and is outside the scope of the 2.206 process and therefore, this request should be <u>rejected, pursuant to Criterion 1 for rejecting a petition under 10 CFR 2.206.</u>
3	The joint petitioners do not seek or request that FitzPatrick operators now install the Direct Torus Vent System (DTVS) Recommended by GL89-16, as it is demonstrated to have experienced multiple failures to mitigate the severe nuclear accidents at Fukushima Dai-ichi.	No.	This is merely a statement to support the petition in general. This is not an enforcement related action and is outside the scope of the 2.206 process and therefore, this request should be <u>rejected, pursuant to Criterion 1 for rejecting a petition under 10 CFR 2.206.</u>
4	FitzPatrick be subject to public hearings with full hearing rights on the continued operation of the Mark I BWR and the adequacy and capability of a pre-existing containment vent which is not a fully hardened vent line as recommended by NRC Generic Letter 89-16. As such, the FitzPatrick operator uniquely did not make containment	No.	The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question. The SE dated September 28, 1992 shows that FitzPatrick met the

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Issue No.	Specific Issue Raised	Does this meet criteria for review under 2.206 process?	Recommendation
	<p>modifications and did not install the DTVS, otherwise known as "the hardened vent," as requested by NRC Generic Letter 89-16 and as installed on every other GE Mark I in the US;</p>		<p>BWROG criteria recommended by GL 89-16. Therefore, in addition, the NRC inspected the design of the Fitzpatrick hardened wetwell vent system and documented the results in an inspection report (50-333/95-06) issued April 18, 1995. Therefore, this issue should be rejected, pursuant to Criterion 2 for rejecting a petition under 10 CFR 2.206.</p>
5	<p>FitzPatrick shall publicly document for independent review its post-Fukushima re-analyses for the reliability and capability of the FitzPatrick pre-existing containment vent system as previously identified as "an acceptable deviation" from NRC Generic Letter 89-16 which recommended the installation of the Direct Torus Vent System and as outlined in the NRC Safety Evaluation Report dated September 28, 1992. The publicly documented post-Fukushima analysis shall include the reassessment of all assumptions regarding the capability and reliability of the pre-existing containment venting and specifically address non-conservative assumptions regarding:</p> <p>a) the FitzPatrick cost-benefit analysis used to justify not installing a fully hardened vent system and;</p>	No.	<p>There is no requirement for the licensee to conduct a re-analysis of their existing containment vent system. The licensee's response to the Order reliable hardened vent order will be publicly available. Subsequent NRC documentation regarding additional efforts i.e., hydrogen control, would also be publicly available.</p> <p>FitzPatrick's response to the GL 89-16 was reviewed and approved by the NRC in September 1992, including the staff review of the licensee's processes and procedures, and inspections. The NRC staff evaluation stated, while approving</p>

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Issue No.	Specific Issue Raised	Does this meet criteria for review under 2.206 process?	Recommendation
	<p>b) "unlikely ignition points" as claimed in the FitzPatrick pre-existing vent line system that would otherwise present increased risks and consequences associated with the detonation of hydrogen gas generated during a severe accident.</p>	<p>Yes.</p>	<p>FitzPatrick's positions with regard to GL-89-16, that FitzPatrick's containment vent system met the design bases and the design intent of GL 89-16.</p> <p>With respect to the Fukushima Dai-ichi accident, the NTF evaluation and the subsequent Commission Order have concluded that a sequence of events such as the Fukushima Dai-ichi accident is unlikely to occur in the U.S and some appropriate mitigation measures have been implemented, reducing the likelihood of core damage and radiological releases. Therefore, continued operation and continued licensing activities do not pose an imminent threat to public health and safety.</p> <p>Accept on the basis of NTF Recommendation 5.1 and Recommendation 6, <u>hydrogen control and mitigation. The staff is evaluating hydrogen control and mitigation on a generic basis. The results of that evaluation will apply to the Fitzpatrick plant.</u></p> <p>Recommendation 5.1 orders licensees to include a reliable hardened vent in BWR Mark I and Mark II containments: <u>for prevention of core damage. This order included performance objectives for the design of hardened vents to ensure reliable operation and ease of use (both opening and closing) during a prolonged SBO. The staff is continuing to evaluate venting under severe accident conditions.</u></p>

Issue No.	Specific Issue Raised	Does this meet criteria for review under 2.206 process?	Recommendation
			<p>Recommendation 6 recommends, as part of the longer term review, that the NRC identify insights about hydrogen control and mitigation inside containment or in other buildings as additional information is revealed through further study of the Fukushima Dai-ichi accident.</p>
6	<p>The Temporary Instruction 2515/183 provides the NRC inspection results in the "Follow-up to the Fukushima Dai-ichi Nuclear Station Fuel Damage Event." The joint petitioners draw attention to what is described at page 8 of the inspection report as an "apparent beyond design and licensing basis vulnerability" involving the FitzPatrick operator's refusal to install the DTVS as recommended by NRC in Generic Letter 89-16.</p>	No.	<p>The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question. The Order on hardened containment vents (EA-12-050) has a timeline of December 31, 2016, for installing the reliable hardened containment vent. Therefore, this issue should be <u>rejected, pursuant to Criterion 2 for rejecting a petition under 10 CFR 2.206.</u></p>
7	<p>The NRC inspection report [per TI-2515/183] identifies that FitzPatrick's "existing plant capabilities" and "current procedures do not address hydrogen considerations during primary containment venting" which is further identified as a "<u>current licensing basis vulnerability.</u>" The joint petitioners further reiterate that the NRC inspection finding that FitzPatrick's "existing plant capabilities" as assumed by the Order are in fact negated by the finding that "FitzPatrick's current licensing basis did not require the plant to have a primary containment torus air space hardened vent system as part of their Mark I</p>	Yes.	<p>Accept on the basis of NTTF Recommendation 5.1 and Recommendation 6.</p> <p>Recommendation 5.1 orders licensees to include a reliable hardened vent in BWR Mark I and Mark II containments: <u>for prevention of core damage.</u> This order included performance objectives for the design of hardened vents to ensure reliable operation and ease of use (both opening and closing) during a prolonged SBO. <u>The staff is still evaluating on a generic basis venting under severe accident conditions.</u></p>

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	containment improvement program."		Recommendation 6 recommends, as part of the longer term review, that the NRC identify insights about hydrogen control and mitigation inside containment or in other buildings as additional information is revealed through further study of the Fukushima Dai-ichi accident. <u>The staff is also evaluating hydrogen control and mitigation on a generic basis.</u>
8	The Commission Order timeline setting December 31, 2016, for installing the hardened vent Order does not address, in a timely way, the unique condition of the FitzPatrick nuclear power plant.	No.	The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question. The SE dated September 28, 1992 shows that FitzPatrick met the BWROG criteria recommended by GL 89-16. <u>In issuing the March 12, 2012, order, the NRC staff explicitly recognized the wide variance in the reliability of hardened vent designs among Mark I plants. The design at Fitzpatrick is one example of that variance.</u> Therefore, this issue should be rejected, pursuant to Criterion 2 for rejecting a petition under 10 CFR 2.206.
9	The FitzPatrick nuclear power plant uniquely does not have a fully hardened vent system on the vulnerable Mark I containment. As a result, FitzPatrick's current capability is identified with "a beyond design and licensing bases vulnerability, in	No.	The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is

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Issue No.	Specific Issue Raised	Does this meet criteria for review under 2.206 process?	Recommendation
	that FitzPatrick's current licensing basis did not require the plant to have a primary containment torus air space hardened vent system as part of their Mark I containment improvement program."		applicable to the facility in question. The SE dated September 28, 1992 shows that FitzPatrick met the BWROG criteria recommended by GL 89-16. <u>In issuing the March 12, 2012, order, the NRC staff explicitly recognized the wide variance in the reliability of hardened vent designs among Mark I plants. The design at Fitzpatrick is one example of that variance.</u> Therefore, this issue should be rejected, pursuant to Criterion 2 for rejecting a petition under 10 CFR 2.206.
10	Given that the FitzPatrick unit willfully refused to install the DTVS, the documented discovery of the <u>"licensing basis vulnerability"</u> of its chosen pre-existing vent now uniquely warrants the suspension of operations pending closer scrutiny, public hearings, and full disclosure for its adequacy and capability in the event of a severe accident.	No.	<p>GL 89-16 urged the licensees to voluntarily install hardened vent capabilities at their Mark I containments. If licensees chose not to install the hardened vent capability, the NRC staff requested the licensee to provide their plant-specific estimates of cost-s of installation of hardened vent capabilities. The licensees were informed that the NRC staff would use the cost data to perform plant-specific backfit analyses, and to determine, if hardened vent installations could be imposed as backfits in accordance with 10 CFR 50.109.</p> <p>In response to GL 89-16, FitzPatrick indicated that it had decided not to commit to install hardened vent capabilities. The NRC staff performed a backfit analysis and concluded that there will be substantial additional increase in protection to public health and safety if hardened vent capability is implemented at FitzPatrick and therefore, the backfit is justified. By letter dated June 15, 1990, the NRC staff urged</p>

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			<p>FitzPatrick to reconsider its decision and implement the hardened vent installation by January 1993. Otherwise, the NRC staff intended to impose the backfit under 10 CFR 50.109.</p> <p>By letters dated January 24, 1991, the NRC staff approved the licensee's request dated July 25, 1990, to integrate the results of its IPE program into its decision regarding making any modifications to existing vent system to implement GL 89-16 hardened vent design criteria. FitzPatrick provided. By letters dated December 6, 1991, and August 14, 1992, FitzPatrick provided its final position regarding implementation of the hardened vent design criteria, use of IPE to re-examine the venting procedures and training of operators, insights gained from performing the IPE program, and the status of investigations into accident management strategies associated with severe accidents.</p> <p>By letter dated September 28, 1992, based on the review of the information provided by FitzPatrick, and the results of the NRC inspection of the FitzPatrick hardened wetwell vent path, the NRC staff determined that the current vent path meets the hardened vent design criteria or their intent. Furthermore, the NRC staff found that the plant procedures and training are adequate to provide information and guidance necessary for operators to effectively use FitzPatrick hardened wetwell vent</p>

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			<p>capability. Therefore, the NRC staff concluded that the existing wetwell vent capability at FitzPatrick is adequate. <u>In addition, the NRC inspected the design of the Fitzpatrick hardened wetwell vent system and documented the results in an inspection report (50-333/95-06) issued April 18, 1995.</u> Temporary Instruction 2515/183. "beyond design and licensing basis vulnerability [for beyond design basis accidents]" was not a consideration during GL 89-16 inspections.</p> <p>The petitioner raises issues that have already been the subject of NRC staff review and evaluation either on that facility, other similar facilities, or on a generic basis, for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question. The SE dated September 28, 1992 shows that FitzPatrick met the BWROG criteria recommended by GL 89-16. Therefore, this issue should be rejected, pursuant to <u>Criterion 2 for rejecting a petition under 10 CFR 2.206.</u></p>
11	The additional identified "vulnerability" and the <u>relatively remote and uncertain mitigation strategy places</u> the public health and safety unduly and unacceptably at risk by the continued day-to-day operations where "current procedures do not	Yes.	<p>Accept on the basis of NTF Recommendation 5.1 and Recommendation 6.</p> <p>Recommendation 5.1 orders licensees to include a reliable hardened vent in BWR Mark I and Mark II</p>

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	address hydrogen considerations during primary containment venting" and will not for nearly five (5) more years.		<p>containments, for prevention of core damage. This order included performance objectives for the design of hardened vents to ensure reliable operation and ease of use (both opening and closing) during a prolonged SBO. The Commission has already considered and deliberated the issue of continued operation in establishing the requirements and due dates in the order rather than calling for immediate action.- <u>The staff is still evaluating on a generic basis venting under severe accident conditions.</u></p> <p>Recommendation 6 recommends, as part of the longer term review, that the NRC identify insights about hydrogen control and mitigation inside containment or in other buildings as additional information is revealed through further study of the Fukushima Dai-ichi accident. <u>The staff is also evaluating hydrogen control and mitigation on a generic basis.</u></p>

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SUMMARY:

- (1) The petition and the supplements do not include any new or additional information or facts that were not known to the NRC staff with respect to FitzPatrick's Containment Vent System.
- (2) FitzPatrick response to the GL 89-16 was also reviewed and approved by the NRC in September 1992, including the staff review of the licensee's processes and procedures, and inspections. The NRC staff evaluation stated, while approving FitzPatrick's positions with regard to GL-89-16, that FitzPatrick's containment vent system met the design bases and the design intent of GL 89-16. In addition, the NRC inspected the design of the Fitzpatrick hardened wetwell vent system and documented the results in an inspection report (50-333/95-06) issued April 18, 1995.
- (3) Recommendation 5.1 orders licensees to include a reliable hardened vent in BWR Mark I and Mark II containments. for prevention of core damage. This order included performance objectives for the design of hardened vents to ensure reliable operation and ease of use (both opening and closing) during a prolonged SBO. The staff is still evaluating on a generic basis venting under severe accident conditions.

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Recommendation 6 recommends, as part of the longer term review, that the NRC identify insights about hydrogen control and mitigation inside containment or in other buildings as additional information is revealed through further study of the Fukushima Dai-ichi accident. The staff is also evaluating hydrogen control and mitigation on a generic basis.

- (4) After the issuance of the Facility Operating License, the NRC has conducted its regular and necessary inspections and assessments of the licensee's performance. The Commission has not found it necessary to issue any ~~generic communications, based on the industry operating experience, or the plant specific communications, based on the licensee's performance,~~ to require any changes to the design and operating requirements of the ~~Containment Vent System~~ containment vent system. The plant continues to meet all the requirements with respect to the regulations and the licensing bases, including those with respect to the design basis accidents and natural phenomena. Fukushima events have been characterized as "Beyond Design Basis Accidents." The design and operating requirements for "Beyond Design Basis Accidents" for Containment Vent System are being addressed through the Commission-Issued Order.