

February 12, 2007

MEMORANDUM TO: Sunil D. Weerakkody, Branch Chief
Fire Protection Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

FROM: Daniel M. Frumkin, Fire Protection Engineer */RA/*
Fire Protection Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF FEBRUARY 5, 2007, CONFERENCE CALL REGARDING
PILOT PLANT (SHEARON HARRIS) TRANSITION TO NATIONAL FIRE
PROTECTION ASSOCIATION STANDARD 805

On February 5, 2007, the U.S. Nuclear Regulatory Commission (NRC) staff from Headquarters, with support from Pacific Northwest National Laboratory, participated in a teleconference with Progress Energy's National Fire Protection Association (NFPA) 805 transition team regarding the development of their NFPA 805 Chapter 3 Transition and Radiation Release analysis. A list of meeting attendees is enclosed to this memorandum (Enclosure 1). The NRC provided comments to Progress Energy prior to the phone call in an email which is attached as an enclosure (Enclosure 2); the NRC and Progress Energy discussed the comments during the phone call. The staff's comments are listed in Enclosure 2¹ and communication of their resolution will be discussed at the next observation visit.

Enclosures:
As stated

CONTACT: Daniel M. Frumkin, NRR/DRA
(301) 415-2280

1 Comment number 33 should refer to comment number 30, not 18.

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1 Comment number 33 should refer to comment number 30, not 18.

NATIONAL FIRE PROTECTION ASSOCIATION 805 PILOT CONFERENCE CALL
LIST OF ATTENDEES

February 5, 2007

NRC/HQ

D. Frumkin
S. Weerkkody
C. Moulton
R. Radlinski
P. Barbadoro
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PNNL

D. Couch
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PROGRESS ENERGY

Mike Fetcher, Harris Plant
Alan Holder, Corporate
Shirelle Johnson, Corporate
Bruce Gerwe, Robinson Plant
Jeff Ertman, Corporate

From: Daniel Frumkin
To: alan.holder@pgnmail.com
Date: 2/5/2007 9:38:48 AM
Subject: Draft Comments on Chapter 3 and Rad Release for NFPA 805 Transition

Alan,

Attached are the draft comments for the phone call this afternoon. These draft comments (along with this email) will be included in the meeting minutes, although some of these comments may not end up being final NRC comments, or additional comments may be added.

Please forward this to others who will be participating on the phone call.

Dan

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Cc: Lain, Paul; Weerakkody, Sunil

ENCLOSURE 2

Comments on HNP, Chapter 3 Transition Review, Rev B

High level comments:

- 1) Consider mapping 50.48(a) requirements in the table, they should line up with the NFPA requirements well.
- 2) Include all dates of codes of record. For example NFPA 805 section 3.3.3, 3.3.8.
- 3) HNP documentation often uses the term Safety Related, some Fire SSD equipment may be in non-SR areas. (see 3.3.1.2) In addition, new NFPA 805 strategies may include non-SR areas. The term that should be used, is "important to nuclear safety" which is interpreted as dealing with the performance criteria in Section 1.5.

For example under 3.3.7, the requirement in 805 is "important to nuclear safety." But the HNP supporting information says does not expose safety related equipment.

- 4) Although the table follows the NEI 04-02, Appendix B1, format with regard to mapping NFPA 805, Chapter 3 requirements to the current fire protection regulatory basis (i.e., BTP CMEB 9.5-1), I found this to be of little help in reviewing compliance with NFPA 805 requirement. The two documents do not align very well and require judgment and assumptions in associating individual requirements. Citing the current regulatory basis does not seem to be particularly important in most cases because compliance must be demonstrated with NFPA 805. Citations of the current regulatory basis should only come into play in the Compliance Basis Statements if the licensee is relying on meeting the BTP as equivalent to compliance with the Chapter 3 requirement. Removing this column would clean-up the table and focus it compliance with the new requirement and not the old. PNL-K
- 5) There was not a specific discussion in NEI 04-02, Section 4.3.1 or Appendix B1, on how to populate Table B-1, although an example is provided. The term "Compliance Basis Statement" is not defined or described. Reading the content of the Example Table B-1 and the HNP Table, it's not clear what the distinction is in the HNP table between the columns, "Compliance Basis Statement" and "HNP Supporting Information". It would appear that much of the "supporting information" described in the HNP supports is similar to the material in the example Table B-1, supports the compliance argument and therefore should be in the compliance basis column. From an NRC perspective, it may not matter as long as the information is provided in some form, but it's confusing as presented. PNL-K

There appears to be a disconnect in some items between the Compliance Statement, Compliance Basis Statement, and the HNP Action Items. For several items the Compliance Statement is "Comply" and the Compliance Basis Statement is "No Additional Clarification," yet there are HNP Action Items assigned to verify compliance, provide additional information, or carry out additional activities to complete the task.

For example, item 3.8.1 states "Comply" with "No Additional Clarification," yet the HNP Action Item provides additional information and states "Generally we comply." Other examples are 3.1, 3.3.1.1(1), 3.3.1.2(2) and (4), 3.3.1.3.2, 3.3.7.3, 3.4.2.2, 3.4.2.3, 3.5.10, 3.5.12, 3.5.15, 3.6.3, 3.6.5, and 3.8.1.2. PNL-K

- 6) Shouldn't there be a "compliance basis" for any situation where the licensee states they comply? PNL-K
- 7) Using the entry for NFPA 805 Section 3.3.1.2 as an example, the compliance basis statement is an FAQ. This is not a statement nor does it related how this FAQ establishes compliance. If an "unapproved" FAQ is cited as the compliance basis, then does the licensee "comply" as stated in this entry? PNL-K
- 8) The column "Compliance Statement" contains a variety of terms/phases such as "comply," "comply with clarification", "comply with previous approval", but also contains LAR (e.g., 3.3.1.2) and in the table entry for NFPA 805, Section 3.11.5, the types of ERFBS are included with the type of compliance statement. In this case the individual ERFBS materials should be discussed in the Compliance Basis Statement (or as currently in the "HNP Supporting Information" column. PNL-K
- 9) There were no "none compliances" identified in spite of identified actions and need for LARs. PNL-K
- 10) NEI 04-02, Section 4.3.1 states, "It is important that the 'previously approved alternatives' be clearly determined..." Appendix B.1 provides an example of a previously approved alternative and states, "...the previously approved alternative compliance will be carried over to NFPA 805, Chapter 3 as a previously approved alternative compliance. The rationale and documentation used to make the decisions should be well documented in the worksheets." It appears that some items on the provided worksheets are "previously approved alternative compliances"; however they are not noted as such. For example, item 3.3.5.3 in quoting from the SER notes that cables generally pass the flame test, and lighting and communication cables do not pass the test. However, the SER says this is allowable because the cables are routed exclusively in conduit and are not routed with cables for safety-related systems. The compliance statement for this item states "comply." NEI guidance has emphasized the importance of identifying previously approved alternatives, so the worksheet should be reviewed very carefully to ensure every previously approved alternative is identified. One other example of possible unidentified previously approved alternatives is 3.5.2. PNL-K

Detailed Comments on HNP, Chapter 3 Transition Review, Rev. B

1. Page 1 of 88, Section 3.2.1: The HNP Supporting Information for this item was probably intended to read as follows to reflect the wording of the requirement in Section 3.2.1 of NFPA 805: "HNP has procedure FPP-001, "Fire Protection Program Plan" that ~~addresses the documents~~ the management policy and program direction,..." RFR
2. Page 7, Section 3.2.2.4: Does "Fire Protection Q Systems and Components" include all structures, systems and components important to safety? Or, if FAQ 19 is approved, does it include all SSCs required to meet the fire protection safety goal? If not, this may need to be restated. RFR
3. 3.2.2.4 – AHJ, last sentence, "For non-fire protection Q systems and components," Do you really mean non-Q fire protection systems? Q systems are the ones needed to meet 805, therefore for these systems the NRC is the AHJ. DMF
4. Page 7, Section 3.2.2.4: The Supporting Information references 10 CFR 50.59 for determining whether NRC review and approval is required for changes. Hasn't HNP adopted the standard fire protection license condition? RFR

5. Item 3.2.3 refers to Attachment A of FPP-001, Fire Protection Program Manual. The version of FPP-001 provided does not have an Attachment A but does have an Attachment 1. Attachment 1 is a matrix that refers to various implementing procedures for FP responsibilities. It appears that all areas noted in 3.2.3 are covered. However, the implementing procedures referenced in this matrix in FPP-001 should be listed as the Basis Document on the Chapter 3 transition worksheet. To fully verify that the Chapter 3 requirement is met the reviewer must look at the contents of the implementing procedure, not just verify that the procedure is listed in FPP-001. PNL-K
6. Page 9, Section 3.3: In the Supporting Information column, the third component of defense-in-depth does not show up on our version of the table. RFR
7. Page 11, Section 3.3.1: Is there a BTP section that can be mapped to this section? CM
8. Items 3.3.1 and 3.3.1.3.3 refer to FPP-001 as the Basis Document. Recommend that reference to Section 8.2 (Fire Prevention - Administrative Controls and Procedures) of FPP-001 be added to both of these items. In general, whenever possible the matrix should refer to specific sections in the larger documents to ensure that the specific parts of the document that are being credited for meeting the NFPA 805 requirement are clear and identified. PNL-K
9. 3.3.1.3 – HNP SI Column, it is not clear what the clarification is. DMF
10. Page 18, Section 3.3.1.3.4: Regarding the fuel-fired heaters – are these currently used (permitted) at the plant? CM
11. Page 23, Section 3.3.6: Regarding the action item, it is the staff position that the scope of this section is, at a minimum, all buildings in the power block, as well as the buildings that are fire exposures for the power block buildings. CM
12. Page 26, Section 3.3.9: In the HNP Supporting Information entry is the proper reference OMM-016, as you listed in the Basis Document Reference entry? CM
13. Item 3.4.1(e) requires Fire Brigade members to have an annual physical. The document FBBCERTH, Initial Fire Brigade Member Certification Card is cited as the Basis Document for demonstrating compliance. This document only certifies an initial exam took place and does not confirm an annual exam or use of respiratory equipment. FPP-001, Section 4.3.3 is a more appropriate document to verify compliance. PNL-K
14. 3.4.4 – list procedure that governs maintenance of fire brigade clothing. DMF

Page 44, Section 3.5.1: The Compliance Basis Statement entry is incomplete. CM

15. Page 45, Section 3.5.2: The last sentence of the first paragraph in the Supporting Information column should read something like: "Each pump has a separate intake and discharges through an independent line to the underground main fire loop." RFR
16. Page 47, Section 3.5.4: The following is a suggestion – On page 44, the pumps are said to be able to supply 2,000 gpm for the largest suppression systems plus 1,000 gpm for hose streams for a total of 3,000 gpm. On this page, the pump capacity is stated as 2,500 gpm. While both capacities may be correct depending on where the pumps operate on the pump curve, it might be good to explain here why the stated capacity is different – or change the hose stream flow to 500 gpm per GL 86-10 guidance. RFR

17. Page 49, Section 3.5.5: In both the Compliance Basis Statement and the Supporting Information columns, reference is made to Section C.6.c of BTP CMEB 9.5-1. However, in the Mapped to CMEB BTP column the heading for this section is C.6.b. RFR
18. Page 50, Section 3.5.6: The last sentence in the Supporting Information column would address the requirement more specifically if it read: Both pumps ~~are~~ may only be stopped manually. RFR
19. Page 50, Section 3.5.7: Suggest including the fire protection P&IDs in the Basis Document References column for this item. RFR
20. Page 52, Section 3.5.9: The entire section of the BTP is quoted in the “Mapped to...” column and only one sentence addresses the requirements of Section 3.5.9 of NFPA 805. Suggest including only the text that specifically addresses the requirement. This comment applies to multiple items in the table. RFR
21. Page 53, Section 3.5.10: The last sentence in the Supporting Information column for this item applies to Section 3.5.16 of NFPA 805 rather than 3.5.10. RFR
22. Page 55, Section 3.5.11: The last sentence in the Compliance Basis Statement refers to CMEB BTP Section C.6.c, but the “Mapped to” item is C.6.b. RFR
23. Page 55, Section 3.5.12: The Supporting Information does not address threads on hydrants, risers, etc. as required by this section of NFPA 805 (unless “hose line equipment” is meant to include these components – should be clarified). RFR
24. Page 57, Section 3.5.15: The same “hose houses” paragraph appears twice in this item. RFR
25. Page 57, Section 3.5.15: Regarding the proposed Action Item, it is the staff’s position that the scope this section is the entire yard main system, not just the areas “in range” of a structure credited in Chapter 4. CM
26. Page 58, Section 3.6.1: If available, this item should include a reference where the NRC specifically notes that the HNP standpipe system is Class II and that it was approved. The quoted supporting information includes specific statements by HNP, but the approval statement by the NRC (in NUREG-1038) does not specifically note that the system is Class II. RFR
27. Page 62, Section 3.6.4: Probably want to change “lie” to “like” under SUMMARY in Compliance Basis Statement column. RFR
28. Page 68, Section 3.6.5: Last sentence would address the requirement more specifically if worded as follows: “Operation of the two 75 gpm hose stations ~~They~~ will not degrade the performance of the Seismic Category I water system.” (If this is a true statement) RFR
29. Page 68, Section 3.8.1: This item is indicated as a “Comply” but there is no supporting information and the Action Item indicates that there is some question of full compliance. There is no action indicated to resolve this question. RFR
30. Page 70, Section 3.8.1.1: This item is indicated as “Comply with Clarification,” but the Action Item (which is not an action item) suggests that the requirement to provide a means of reporting a fire at “any location in the plant” may not be met. The Supporting Information does not clarify where this capability is not met and why that is acceptable. RFR
31. Page 70, Section 3.8.1.2: There is no Compliance Basis Statement (other than “No Additional Clarification”) or supporting information for this item. It is not clear how the site population and fire brigade will be promptly notified of a fire emergency. RFR

32. Page 71, Section 3.8.2: Same comment as No. 18. RFR
33. Page 72, Section 3.9.1: The Action Item regarding standpipes/hose stations is not understood. This section is about fixed water-based suppression systems including manually actuated systems, and does not address standpipes and hose stations, which are covered in other sections of the code. RFR
34. Page 73, Section 3.9.3: Suggest delete "The alarms associated with the" (appears to be a typo) RFR
35. Page 79, Section 3.11: This section of NFPA 805 is only an introduction and does not need a compliance statement or supporting information (the supporting information indicated in the table is a repeat of the NFPA text). RFR
36. Page 80, Section 3.11.1: The bolded statement under CB in the Supporting Information is an action item – should move to the Action Items column. RFR
37. Page 80, Section 3.11.1: Under Supporting Information for the TB, it is noted that certain duct bus penetrations are not 3-hour rated and then identifies specific bus duct penetrations that have been exempted. There should be a statement that all of the bus duct penetrations have been exempted (if that is the case) or identify and address the non-exempted penetrations. RFR
38. Page 82, Section 3.11.1: Under Supporting Information, the statement that "Penetration openings for equipment and cables are sealed using 3 hour rated penetration seal designs" is included at the end of the paragraph on the interface between the RAB and the WPB but not included in the discussion on the interface between the RAB and the FHB. The RAB/FHB penetrations should be addressed. If there aren't any, it should be stated. RFR
39. Page 83, Section 3.11.3: Some of the supporting information and references provided for 3.11.1 are applicable to this item. Should include here or reference 3.11.1. RFR
40. Page 87, Section 3.11.5: Is there a Basis Document for the Meggitt cable? CM

Fire Pre-Plan Comment

1) The Pre-plans were updated to discuss treatment of liquids as hazardous; there is no discussion of monitoring of fire product ventilation. (Section 3.2 of FPIP-0121 includes ventilation as a fire suppression activity.)

For example in FPP-012-03-FHB – under section **F04-13-261-0736**

– "add monitoring requirements for smoke management," but the the review document discusses under Smoke Management, Normal Ventilation or Manual Purge to Outside.

RAD RELEASE COMMENTS

General Comments:

- ❖ We need to get a copy of FSAR section 9.3.3 which, according to the FSAR section we do have, contains the details of the floor drain system. CM
- ❖ We are going to eventually want to see the verbiage for some of the vague things in the Table. For example, in the Table entry concerning the overview of a typical fire pre plan (FPP), we see entries like: CM

- Modify step 4.2 to add radiological verbiage. CM
 - Modify 4.5.g to address radiological monitoring. CM
- ❖ Additionally, we will want to see the changes to the fire brigade training materials. CM
- FBA10H – does not include any discussion of monitoring RAD release or training fire brigade for radiation release.
 - FBA10H does not include discussion of checking equipment for contamination following use, see 3.2 of FPIP-0121.
- ❖ We will want to see the to-be-developed FPPs for the outside areas. CM

Specific Comments:

1. The table says that the licensee reviewed “FPP-12-07-TB,” but it does not appear in the rest of the table. CM
2. The table says that the licensee screened out “FPP-12-09-LAF,” but this document is not on the CD. CM
3. In the FPPs for containment the licensee is adding text to the introduction / overview about smoke management, but then removing all mention of smoke removal from each of the individual FPPs. CM
4. A statement in the table concerning Containment: “The containment opening is bounded by existing controls to establish containment integrity.” In non-power operational states (Modes 5, 6), there are situations where the containment boundary may be open. How will containment integrity be affected by the movement of smoke under these conditions? CM

Detailed Comments:

- ⇒ Why was the SW & SI Pipe Tunnel South (A06-3-216-0460) screened out? It contains a “Radiation Area.” CM
- ⇒ Why was the Steam Tunnel (A30-5-261-0999) screened out? It is “potentially contaminated.” CM
- ⇒ Why was the Containment Equipment Hatch Access Area (A31-6-286-0633) screened out? It is “potentially contaminated.” CM
- ⇒ Why was the FHB Emergency Exhaust Charcoal Filter 1-4X-SA (F03-13-236-0734) screened out? It is a “Potential Radiation Area and Release Path.” CM
- ⇒ Why was the Switchgear Room 1, Switchgear Room 2, and Working Area (W15-15-276-0108) screened out? It contains a “Rad Area.” CM
- ⇒ In the Fire Brigade training materials section of the Table, why was there no addition to the “Portable Extinguishers” entry? CM

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Subject: Draft Comments on Chapter 3 and Rad Release for NFPA 805
Transition

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From: Daniel Frumkin

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