

From: [RILEY, Jim](#)
To: [Chris Hunsaker \(jchunsaker@tva.gov\)](#); [Miller, Ed](#)
Cc: [POLLOCK, Joseph](#); [Altarian, George](#); [Brunette, Pat](#); [Buman, Dan](#); [Burris, Ken](#); [Carrie L. Stokes \(carrie.stokes@bwsc.net\)](#); [Colin Keller \(crharris@aep.com\)](#); [Dave Buchheit](#); [Dean Hubbard \(dmhubbard@duke-energy.com\)](#); [Don Bentley \(DBENTLE@entergy.com\)](#); [Gambrill, David](#); [Gary W. Smith \(gsmith@enercon.com\)](#); [GASPER, JOSEPH K](#); [Geiger, Charlotte](#); [Giddens, John](#); [Glen D.Ohlemacher \(ohlemacherg@dtenergy.com\)](#); [Hackerott, Alan](#); [Hammons, Mark A.](#); [Heather Smith Sawyer \(heather.sawyer@bwsc.net\)](#); [Heerman, John](#); [Horstman, William R.](#); ["Huffman, Ken"](#); [HYDE, KEVIN C](#); [Jeff Brown \(jeffrey.brown@aps.com\)](#); [Jim Breunig \(james.breunig@cenglcc.com\)](#); [joe.bellini@aterrasolutions.com](#); [John Lee \(John.Lee@dom.com\)](#); [Kit Ng \(kyng@bechtel.com\)](#); [LaBorde, Jamie](#); [Larry Shorey \(ShoreyL@Inpo.org\)](#); [Lorin.Young@CH2M.com](#); [Maddox Jim \(maddoxje@inpo.org\)](#); [Mannai, David J](#); [Matt Nienaber \(mbniena@nppd.com\)](#); [Maze, Scott](#); [Michael Proctor \(michael.proctor@urs.com\)](#); [MICHAEL.J.MILLER@sargentlundy.com](#); [Mike Annon - Home \(ICENG2008@AOL.COM\)](#); [Miller, Andrew](#); [Murray, Mike](#); [Nicholas.Reidenbach@aps.com](#); [Parker, Thomas M.](#); [Pate, Russell](#); [Ray Schneider \(schneire@westinghouse.com\)](#); [RILEY, Jim](#); [Robinson, Mike](#); [Rogers, James G](#); [Rudy Gil](#); [Ruf, Gary \(Gary.Ruf@pseg.com\)](#); [Scarola, Jim](#); [Selman, Penny](#); [Shumaker, Dennis](#); [Snyder, Kirk](#); [Stapleton, Dan](#); [Stone, Jeff](#); [Terry Grebel \(tlg1@pge.com\)](#); [Thayer, Jay](#); [Vinod Aggarwal \(Vinod.aggarwal@exeloncorp.com\)](#); [Williams, Dane R. \(INPO\)](#); [Wrobel, George](#); [Yale, Bob](#)
Subject: FAQ 030 - Determining Available Physical Margin rev 2 draft i
Date: Wednesday, October 23, 2013 1:13:18 PM
Attachments: [FAQ 030 - Determining Available Physical Margin rev 2 draft i.doc](#)

Chris, Ed;

The latest version of FAQ 030 is attached for your review.

I will be sending you FAQ 031 (Interim Actions) and the specific comments we want to discuss on the IA examples in a later message.



Now Available: NEI's Online Congressional Resource Guide, JUST THE FACTS!

Web site address: www.NEI.org/CongressionalResourceGuide

FOLLOW US ON



This electronic message transmission contains information from the Nuclear Energy Institute, Inc. The information is intended solely for the use of the addressee and its use by any other person is not authorized. If you are not the intended recipient, you have received this communication in error, and any review, use, disclosure, copying or distribution of the contents of this communication is strictly prohibited. If you have received this electronic transmission in error, please notify the sender immediately by telephone or by electronic mail and permanently delete the original message. IRS Circular 230 disclosure: To ensure compliance with requirements imposed by the IRS and other taxing authorities, we inform you that any tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding penalties that may be imposed on any taxpayer or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.

Sent through mail.messaging.microsoft.com

FAQ 030: Determining Available Physical Margin

A. TOPIC: Determining Available Physical Margin

Source document: NEI 12-07 Section: 3.13 and 5.8

B. DESCRIPTION:

During their flooding design basis walkdowns, the NRC observed that licensees did not always determine and document available physical margin (APM) in a consistent manner that met the expected interpretation of NEI 12-07 (design basis walkdown guidance document). The NRC is concerned that this finding may be widespread within the nuclear fleet.

Provide additional guidance on how APM should be determined and recorded and how resolution of the issue can be communicated to the NRC.

C. Initiator:

Name: Jim Riley Phone: 202-739-8137

Date: 8/27/13 E-Mail: jhr@nei.org

D. RESOLUTION: (Include additional pages if necessary. Total pages: 3)

Inquiry number: 030 Priority: H

APM Determination

Available physical margin is defined in section 3.13 of NEI 12-07. The process for obtaining and evaluating APM is described in section 5.8. The description below provides additional information.

- Scope: FAQ 030 is applicable to passive barriers, doors, and seals.
- NEI 12-07 does not require that a numerical threshold value for "small" APM (see section 5.8) be defined for each site, but doing so establishes a consistent basis for determining what instances need to be entered into the CAP. The implementation of the guidance in this FAQ requires that each site determine a value or values for "small APM".
- A numerical value for APM should be determined for every applicable flood protection feature (e.g., wall, penetration, berm, door, etc.). In accordance with FAQ 006, this would normally be a simple number reflecting the difference between the design basis flood height at the location and the point at which the function of the flood protection feature is compromised (e.g., the top of a barrier or the height of the first unsealed penetration) and the resulting flood can affect a SSC important to safety.
- If the APM for a barrier is cannot be determined, declare the APM "Undetermined" and assess the ability of the barrier to withstand a flood equal to the design basis flood plus the "small" APM. If the barrier can withstand this event, the barrier APM is not "small". Document that the APM for this feature is "not small" and describe or reference the assessment performed.
- The following are three possible approaches for addressing APM for flood barrier seals; any of these can be used. Document the methods used and retain within the flooding walkdown records:
 - Estimate the APM
 - If the pressure ratings are known, use the ratings to determine APM (Similar to Example 2 in Section 3.13 of NEI 12-07). Document the APM. No further action is required if the APM value is "not small"; that is, greater than the pre-established small-margin threshold value. If the APM value is small, perform an assessment of "significant consequences" and follow the guidance in NEI 12-07 Section 5.8.

FAQ 030: Determining Available Physical Margin

— OR —

- The APM for seals (e.g., flood doors, penetrations, flood gates, etc.) in a barrier can be assumed to be the same as the APM for the barrier in which they are located if there is evidence that the seals were designed or evaluated as flooding seals. Document the APM. No further action is required if the APM value for the barrier is not “small”; that is, greater than the pre-established ‘small-margin’ threshold value. If the APM value for the barrier is “small”, perform an assessment of “significant consequences” and follow the guidance in NEI 12-07 Section 5.8.

— OR —

- Other as justified
 - Prove the APM is not “small”
 - If the design basis for the site is specific as to the flood elevation that safety related equipment is protected to, then the difference between the documented protection level and the level of the design basis flood can be credited as margin. If the margin is large (i.e., the design basis protection level is much larger than the design basis flood elevation plus the “small APM” value), it can be concluded that the APM for seals designed or evaluated for flood protection and included in the design basis, is not “small”. Document the APM as “not small”. If this conclusion cannot be justified, assume the APM is small and follow the guidance in NEI 12-07 Section 5.8.
 - Assume the APM is “small” and evaluate for significant consequences
 - Assess “significant consequences” (loss of all trains of a safety related system) in accordance with the guidance in NEI 12-07 Section 5.8. If it is reasonable to judge that the leakage from the seals in a barrier would not exceed the drainage capability of the room or would not result in a loss of all trains of a safety related system, the consequences

FAQ 030: Determining Available Physical Margin

of margin being exceeded by a flood can be judged as "not significant". Record "not significant" as the APM, and no further action is required. If the consequences appear to be significant, enter the condition into the CAP.

- "Large" APMs should be treated in accordance with FAQ-006.
- If a numerical APM value or APM designation (i.e. "not small" or "not significant") cannot be determined, document why this is appropriate.

Process for Closure

Licensees should ensure that the process for APM determination and evaluation used during their flooding design basis walkdowns is consistent with the guidance in NEI 12-07 and this FAQ. The intent of this process is not to repeat the flooding design basis walkdowns or perform an extensive revision of the walkdown record forms and other paperwork, but to verify or modify the process used to determine available physical margin such that every site is aware of the margin at each of its flood protection features and takes appropriate interim actions when the actual APM is "small" and the consequences are significant. Instances where numerical values for APM were not determined, or where the basis for the APM was found to be questionable, should be rectified by either the documentation of a specific value or an explanation of why a non-numerical value is appropriate.

A description of your review and its results should be documented, retained with the paperwork supporting the flooding walkdowns, and available for onsite audit. A letter should be submitted to the NRC containing the following information:

- Confirm that the flooding design basis walkdown APM process was reviewed,
- Confirm that the APM process is now or was always consistent with the guidance in FAQ-030 and NEI 12-07, and
- If changes are necessary, provide a general description of any process changes to establish this consistency (for example: documented a value for "small" APM, or established a numerical value or designated as 'Undetermined' for APMs that were previously designated as "N/A", or entered all unknown APMs that might have significant consequences into CAP, etc.).

Note that the actual APM values need not be reported to the NRC, but available for onsite audit.

The target date for completion of this effort and submittal of the NRC letter is January 31, 2014. The submittal can be made before final CAP disposition of any identified conditions. If additional time is necessary, licensees should contact their NRC project manager.

Revision: 2 Date: 10/23/13

E. NRC Review:

Not Necessary _____

Necessary _____

Explanation: _____

F. Industry Approval:

FAQ 030: Determining Available Physical Margin

Documentation Method:	Date:
-----------------------	-------

G. NRC Acceptance:

Interpretation	Agency Position
----------------	-----------------

Documentation Method:	Date:
-----------------------	-------