DiabloCanyonNPEm Resource

From: Ferrer, Nathaniel
Sent: Friday, July 16, 2010 10:18 AM
To: Grebel, Terence; Soenen, Philippe R
Cc: DiabloHearingFile Resource
Subject: Draft RAI Set 16 - AMR and AMP RAIs
Attachments: Draft RAI Set 16 AMR and AMP RAIs.doc

Terry and Philippe,

Attached is Draft RAI Set 16 containing draft RAIs, specifically on portions of the aging management review and aging management programs. Please review the attached draft RAIs and let me know if and when you would like to have a teleconference call. The purpose of the call will be to obtain clarification on the staff's request.

Please let me know if you have any questions.

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Diablo Canyon Nuclear Power Plant, Units 1 and 2 (DCPP)
License Renewal Application (LRA)
Draft Request for Additional Information Set 16
Aging Management Review/Aging Management Programs

D-RAI 3.2.2.3.4-1

The GALL Report, under item VII.G-9, indicates that copper alloy piping, piping components and piping elements exposed to condens.ation (internal) results in a loss of material, pitting and crevice corrosion, and the applicant should implement a plant specific aging management program to manage the aging effect.

The Diablo Canyon LRA Table 3.2.2-4 indicates that the copper alloy heat exchanger tube components are exposed to plant indoor air (internal). The LRA Table 3.2.2-4 also indicates that the copper alloy >15%Zn valve components are exposed to internal ventilation atmosphere and that the copper alloy >15%Zn valve components are exposed to internal plant indoor air. For each of the three component/environment scenarios, the LRA uses Note G, along with a plant-specific note that states "Condensation can occur but rarely. Component surfaces are normally dry". LRA Table 3.0-1 defines plant indoor air and ventilation atmosphere as "evaluated with the NUREG-1801 environment of condensation when the air contains significant amounts of moisture (enough to cause loss of material)". Since there is no aging management program assigned to these components, it is not clear how the applicant will monitor to ensure that condensation does not form.

Provide additional information to indicate that the moisture level is being monitored in these systems to ensure that condensation does not form or provide prior historical evidence that would show that condensation does not occur with these components and environmental conditions.

D-RAI B.2.1.18-2

The license renewal application (LRA) states that Aging Management Program (AMP) B.2.1.18, Buried Piping and Tanks Inspection Program, is a new program with 2 exceptions and no enhancements and is consistent with the program elements in GALL AMP XI.M34. This AMP addresses buried piping, (i.e., piping in direct contact with soil). The LRA also states that AMP B.2.1.20, External Surfaces Monitoring Program, is a new program with 3 exceptions and no enhancements and is consistent with the program elements in GALL AMP XI.M36. This AMP addresses aging management of the external surfaces of piping exposed to air, which would normally include underground inaccessible piping (i.e., piping not in direct contact with soil, but located below grade in a vault, pipe chase, or other structure where it is exposed to air and where access is limited).

There have been a number of recent industry events involving leakage from buried and underground piping and tanks.

In light of this recent industry Operating Experience (OE), the staff is concerned about the possible susceptibility to failure of buried and/or underground piping that are within the scope of 10 CFR 54.4 and subject to aging management for license renewal. In reviewing the AMPs cited above along with the applicable aging management review (AMR) items associated with them,

the staff is not clear whether: (1) the components addressed by these AMPs clearly include both buried and underground piping (piping which is below grade and contained in a vault or other structure where it is exposed to air and where access is limited); and (2) whether such programs are being updated to incorporate lessons learned from these recent events as well as any OE from the applicant's own history.

1. Provide a discussion of how or whether the AMPs used in managing the aging of buried, underground, and limited access piping and tanks within the scope of license renewal will address recent industry OE as well as any OE from the applicant's own history.
2. If there are proposed changes as a result of the review of recent industry operating experience related to buried pipe, state how many excavations will be conducted during the ten year period prior to extended operation and in the period following the period of extended operation and minimum length of piping that will be exposed. State what percentage of the total length of piping these excavations will reveal.
3. If any proposed changes entail other methods of examining the pipe than excavations and direct visual inspection of the coating and/or piping surface, state what those methods will be and state what percentage of the total length of piping will be examined.
4. For the following in scope systems, provide a discussion on whether cathodic protection will be provided for each and the extent of cathodic protection. Provide a discussion of the testing of the cathodic protection used since the pipe was first buried:

Saltwater & Chlorination	3.3.2-3
Make-up Water	3.3.2-5
Fire Protection	3.3.2-12
Diesel Fuel Oil	3.3.2-13

D-RAI B2.1.37-1

With respect to LRA Nickel-Alloy Aging Management Program element 5 - monitoring and trending, verify that volumetric and/or surface examinations will be performed in accordance with MRP-139 for reactor vessel inlet and outlet nozzles, as identified in the program description of this AMP.