



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 6, 2010

Mr. S.K. Gambhir
Vice President Technical Services
Columbia Generating Station
Energy Northwest
MD PE04
P.O. Box 968
Richland, WA 99352-0968

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
COLUMBIA GENERATING STATION, LICENSE RENEWAL APPLICATION

Dear Mr. Gambhir:

By letter dated January 19, 2010, Energy Northwest submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54), to renew Operating License NPF-21 for Columbia Generating Station, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Mr. Abbas Mostala and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-4029 or by e-mail at evelyn.gettys@nrc.gov.

Sincerely,

Arthur Cunanan FOR

Evelyn Gettys, Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosure:
As stated

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REQUEST FOR ADDITIONAL INFORMATION
COLUMBIA GENERATING STATION
LICENSE RENEWAL APPLICATION

RAI 2.4.2-1

License renewal application (LRA) Table 2.4-2 "Reactor Building" does not list coatings as a component type. If protective coatings are relied upon to manage the effects of aging, the structures monitoring program is to include provisions to address protective coating monitoring and maintenance. In addition, degraded coatings may have an impact on the functionality of the Emergency Core Cooling Systems (ECCS), therefore the Protective Coatings Monitoring Program should include protective coating monitoring and maintenance. Please clarify if the coatings are credited with managing the effects of aging of the concrete and steel components or may have an impact on the safety function of the ECCS. If it is credited or has an impact on the ECCS, then clarify whether coatings should be included in scope of license renewal and whether there is a subsequent aging management review (AMR) and/or aging management program (AMP) to evaluate this component.

RAI 2.4.3-1

As stated in LRA Section 2.4.3, page 2.4-17, "the balance of the pump house is supported by reinforced concrete columns and spread footings." However, Tables 2.4-3 and 3.5.2-3 of the LRA does not list the reinforced concrete columns, as included under component type: "Reinforced Concrete: walls, floors and ceilings." Please confirm the inclusion of the reinforced concrete columns in the scope of license renewal and subsequent AMR and provide the location where they are covered. Otherwise, justify the exclusion from scope.

RAI 2.4.5-1

As stated in LRA Section 2.4.5, the Diesel Generator Building is supported on its own foundations consisting of continuous wall footings, isolated spread footing for concrete columns, and isolated equipment foundations. However, Table 2.4-5 of the LRA does not list the reinforced concrete columns, as included under component type: "Reinforced Concrete: walls, floors and ceilings." Please confirm the inclusion of the reinforced concrete columns in the scope of license renewal and subsequent AMR and provide the location where they are covered. Otherwise, justify the exclusion from scope.

RAI 2.4.8-1

Table 2.4-8 of the LRA, the Radwaste Control Building, has the "Partition Walls" listed with the intended function of Support of Criterion (a)(2) (SRE). The intended function of the safety-related equipment (SRE) is defined in LRA Table 2.0-1 as, "Provide structural or functional support required to meet the Commission's regulations for any of the regulated events in 10 CFR 54.4(a)(3)." However, there is also a component type listed as, "Reinforced Concrete: walls, floors and ceilings" that has the same SRE intended function. Please provide a more detailed description of the "Reinforced Concrete: walls, floors and ceilings" and the

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“Partition Walls” that are listed as a separate component type, including their intended function in order to clarify the difference or the relationship between the two components.

RAI B.2.26-4

Background:

Problem Evaluation Report (PER) 201-0825, dated May 17, 2001, stated that water samples taken from various fire protection systems as part of a proactive biofouling detection program indicated the potential for microbiologically-induced corrosion (MIC), based on the identification of sulfate reducing bacteria in the samples. The PER also stated that the MIC concern was considered moderate to low in the Columbia Generating Station (CGS) fire protection system. The initial assessment stated that MIC may at some point lead to a breach of the system in the form of pinhole leaks. The follow-up corrective actions to mitigate MIC, as stated in the PER, included sampling of the fire protection system water for bacteria during annual performance testing, and initiating a MIC trending program for the various plant systems effected.

Issue:

The staff noted that although the Fire Water System Program includes activities capable of managing the aging effects of MIC, neither the LRA nor any of the other supporting documents reviewed during the AMP audit discussed the results of the follow-up analyses and trending performed regarding the MIC concern in the fire protection system. Without this information, it is unclear to the staff whether the MIC issues in the fire protection system are being adequately managed by the Fire Water System Program.

Request:

Describe the water sampling and MIC trending program results for the fire protection systems and discuss how these results are used to mitigate MIC.

RAI B.2.42-1

Background:

The GALL Report Open-Cycle Cooling Water Program (XI.M20) scope of program element indicates that this program is used to manage aging effects of material loss and fouling.

Issue:

The applicant's LRA indicates that the scope of the program includes cracking of copper alloys and aluminum components.

Request:

Provide additional information explaining the basis for how cracking will be managed in the Open-Cycle Cooling Water Program.

RAI B.2.42-2

Background:

The GALL Report Open-Cycle Cooling Water System Program (XI.M20) preventive actions element indicates that the components are lined or coated to protect the underlying metal surfaces.

Issue:

The LRA indicates that an exception is taken for the use of protective coatings. However, the LRA does not indicate what actions are taken to ensure that the lack of protective coatings is adequate to ensure the operability of the open-cycle systems.

Request:

Provide additional information explaining how the lack of coatings in the open-cycle system is acceptable to maintain the system's integrity and functionality.

RAI 3.3.2.2.9-1

Background:

Standard Review Plan – License Renewal (SRP-LR), Table 3.3-1, item 3.3.1-20 and GALL Report item VII.H1-10 state that for steel piping, piping components, piping elements, and tanks exposed to fuel oil, the aging effects to be managed include loss of material due to general, pitting, crevice, and microbiologically influenced corrosion, and fouling. The GALL Report recommends GALL AMP XI.M30, "Fuel Oil Chemistry," augmented by GALL AMP XI.M32, "One-Time Inspection," to manage aging for these components and recommends that detection of aging effects, including fouling, be evaluated.

Issue:

The applicant addresses SRP-LR item 3.3.1-20 in LRA Section 3.3.2.2.9.1, and states that "Fouling is not identified as an aging effect for fuel oil." It is not clear to the staff why the applicant determined that fouling is not an applicable aging effect for steel components exposed to fuel oil.

Request:

Provide the technical basis for excluding fouling as an aging effect to be managed for steel components exposed to fuel oil.

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/RA/ A. Cunanan for
Evelyn Gettys, Project Manager
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Letter to S.K. Gambhir from E. Gettys dated August 6, 2010

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