

September 27, 2007

Mr. Terry J. Garrett
Vice President Engineering
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, KS 66839

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE
WOLF CREEK GENERATING STATION, UNIT 1, LICENSE RENEWAL
APPLICATION

Dear Mr. Garrett:

By letter dated September 27, 2006, Wolf Creek Nuclear Operating Corporation submitted an application pursuant to 10 CFR Part 54, to renew the operating license for Wolf Creek Generating Station, Unit 1, 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.

These requests for additional information were discussed with Lorrie Bell, 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 301-415-3703 or e-mail VMR1@nrc.gov.

Sincerely,

/RA/

Verónica M. Rodríguez, Project Manager
License Renewal Branch B
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-482

Enclosure:
Requests for Additional Information

cc w/encl: See next page

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Letter to T. Garrett From V. Rodriguez Dated September 27, 2007

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APPLICATION

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WOLF CREEK GENERATING STATION, UNIT 1
LICENSE RENEWAL APPLICATION
REQUESTS FOR ADDITIONAL INFORMATION (RAI)

The license renewal application (LRA) states that the Steam Generator Tube Integrity aging management program (AMP) is consistent, with exceptions, to the Generic Aging Lessons Learned (GALL) Report. The GALL Report states, in part, that the degradation management program in Nuclear Energy Institute (NEI) 97-06, "Steam Generator Tube Integrity," is adequate to manage the effects of aging of the steam generator tubes. NEI 97-06 references guideline documents developed by the Electric Power Research Institute (EPRI) for managing areas important to steam generator tube integrity, including tube inspections.

The LRA discusses several exceptions taken to the EPRI guidelines. With respect to these exceptions, the staff requests that the applicant address the following:

RAI B2.1.8-1

The LRA states that the rotating pancake probe is used to inspect from 3 inches above to 3 inches below the top of the tubesheet and that the bobbin probe is used to inspect the entire engagement length of the hydraulically expanded tubesheet region. However, the bobbin probe is not qualified for inspection in this area. The application also states that there was a one-cycle license amendment request to use an alternate tube repair criteria which, in part, eliminated the need to inspect near the tube ends on the hot-leg side of the steam generator.

The EPRI guidelines indicate that the full length of the steam generator tubes requires an inspection with an inspection technique qualified for each region of the tube.

The staff requests that the applicant clarify this exception to the GALL Report and the EPRI guidelines. For example, clarify whether the exception being taken to the EPRI guidelines is that the entire tube is not inspected or whether Wolf Creek Generating Station (WCGS) is not inspecting the portions of the tube required to be inspected with techniques capable of detecting flaws that may be occurring in that region. The staff notes that the tube is required to be inspected with the objective of detecting flaws of any type and that may satisfy the applicable tube repair criteria (WCGS technical specification 5.5.9.d). As a result, if cracking of the tube could occur at various locations within the tubesheet, these areas should be inspected with techniques capable of finding these flaws (and consistent with the sampling and tube integrity requirements of the technical specifications). The staff notes that inspection near the tube ends on the hot-leg side of the steam generator is not required for refueling outage fifteen and the subsequent operating cycle (since this portion of tube is explicitly exempted from the inspection requirements in the technical specifications).

Enclosure

RAI B2.1.8-2

The LRA states that the bobbin probe is used to detect primary water stress corrosion cracking at tube dents in support plates and stress corrosion cracking in free span regions. However, the bobbin probe is not qualified for detection of these degradation mechanisms when the voltage of the dent exceeds certain threshold values.

The EPRI guidelines indicate that the full length of the steam generator tubes requires an inspection with an inspection technique qualified for each region of the tube.

The staff requests that the applicant clarify the nature of this exception to the GALL Report and EPRI guidelines since the WCGS technical specifications require, in part, to (a) perform an assessment of the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations; and (b) to inspect the tubes with the objective of detecting flaws that may satisfy the applicable tube repair criteria.

In light of these requirements, if WCGS concludes that primary water stress corrosion cracking could occur at tube dents in support plates or outer diameter stress corrosion cracking could occur in free span regions, these regions should be inspected with techniques capable of finding these forms of degradation.

RAI B2.1.8-3

The LRA indicates that the EPRI guidelines require that if active damage mechanisms are identified then all steam generators shall be examined at the end of each fuel cycle. The application also states that although WCGS currently has one active damage mechanism (i.e., wear at anti-vibration bars), only two steam generators are inspected at each refueling outage on an alternating basis so that each steam generator is examined every other refueling outage.

The staff requests that the applicant confirm that WCGS has verified the acceptability of this approach each outage by confirming that tube integrity will be maintained for the period of time between the planned inspections of the steam generators (consistent with the technical specification requirements).

RAI B2.1.8-4

The LRA states that structural integrity limits consistent with Regulatory Guide 1.121, "Bases for Plugging Degraded PWR Steam Generator Tubes" are applied as part of the Steam Generator Tube Integrity AMP. The staff requests that the applicant confirm that the AMP also includes the structural integrity limits contained within the WCGS technical specifications.