

September 29, 2005
GO2-05-160

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
ASSOCIATED WITH THE ALTERNATE SOURCE TERM LICENSE
AMENDMENT REQUEST AND TSTF-51**

Reference: Letter dated September 30, 2004, DK Atkinson (Energy Northwest) to NRC,
"License Amendment Request – Alternate Source Term"

Dear Sir or Madam:

Transmitted herewith in Attachment 1 is the Energy Northwest response to a Request for Additional Information. This response provides additional justification for the adoption of TSTF-51 as requested in the reference.

New commitments are included in this response and are listed in Attachment 2.

If you have any questions or require additional information, please contact Mr. MK Brandon at (509) 377-4758.

I declare under penalty of perjury that the foregoing is true and correct. Executed on
9-29-05.

Respectfully,



DK Atkinson
Vice President, Nuclear Generation
Mail Drop PE08

Attachments: 1. Response to Request for Additional Information
2. List of Regulatory Commitments

cc: BS Mallett – NRC RIV
BJ Benney – NRC NRR
NRC Senior Resident Inspector/988C

RN Sherman – BPA/1399
WA Horin – Winston & Strawn

A001

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

NRC Request for Additional Information (RAI)

Technical Specifications (TS) 3.8.2, 3.8.5, and 3.8.8 (which are currently applicable in Modes 4, 5, and during movement of irradiated fuel assemblies in the secondary containment) required, in part, immediate suspension of movement of irradiated fuel in secondary containment when both offsite preferred sources, redundant safety related electric onsite power sources, or redundant safety related distribution systems are no longer operable. The proposed change would allow, without TS restrictions, the movement of irradiated fuel assemblies that have decayed at least 24 hours when there is no offsite power, when there is no onsite power, or when there is no ac and dc electric power through the electric distribution system to safety related loads.

Technical Specifications Task Force (TSTF)-51 guidelines for system removed from service during movement of irradiated fuel that has decayed for two days or more and during core alternations state that:

“During fuel handling/core alternations, ventilation system and radiation monitor availability (as defined in NUMARC 91-06) should be assessed, with respect to filtration and monitoring of releases from the fuel. Following shutdown, radioactivity in the fuel decays away fairly rapidly. The basis of the Technical Specification operability amendment is the reduction in doses due to such decay. The goal of maintaining ventilation system and radiation monitor availability is to reduce doses even further below that provided by the natural decay. A single normal or contingency method to promptly close primary or secondary containment penetration should also be developed. Such prompt methods need not completely block the penetrations or be capable of resisting pressure. The purpose of the “prompt” methods” mentioned above is to enable ventilation systems to draw the release from a postulated fuel handling accident in the proper direction such that it can be treated and monitored.”

Justify movement of irradiated fuel assemblies that have decayed at least 24 hours without the availability of power source to any safety systems such as those needed to maintain plant shutdown (as described above in TSTF-51), for monitoring and maintaining the plant status, or to mitigate events postulated during fuel handling accident.

Energy Northwest Response

Background

A description and justification of the changes proposed to TS 3.8.2, 3.8.5 and 3.8.8 are provided on pages 12 and 13 of Attachment 1 of the September 30, 2004 Energy Northwest Alternate Source Term (AST) License Amendment Request (LAR). As

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ASSOCIATED WITH
THE ALTERNATE SOURCE TERM LICENSE AMENDMENT REQUEST AND TSTF-51**
Attachment 1
Page 2 of 4

discussed in the justification, these changes combined with the addition of the new TS 3.9.10, Decay Time, are consistent with the scope and intent of the previously NRC-approved TSTF-51. The proposed changes for Columbia do look different than the approved TSTF-51 mark-up. TSTF-51 modifies TS 3.8.2, 3.8.5 and 3.8.8 Applicability Statement by limiting the scope of the applicability to only the movement of recently irradiated fuel vice the movement of any irradiated fuel regardless of its decay time. With the addition of the new proposed TS 3.9.10, Decay Time, (see page 14 of Attachment 1 of the September 30, 2004 LAR), the movement of recently irradiated fuel will be prohibited at Columbia. Therefore the deletion of the "during the movement of irradiated fuel" in the Applicability Statement as opposed to the insertion of the word "recently" as provided in TSTF-51 is appropriate and results in the same requirements being enforced by the proposed TS. Consistent with TSTF-51, the Required Action to immediately suspend core alterations and the movement of irradiated fuel has been deleted from TS 3.8.2, 3.8.5, and 3.8.8 since these specific activities are no longer a part of the Applicability Statement and the new TS 3.9.10 will prohibit the movement of "recently" (i.e., less than 24 hours) irradiated fuel at all times.

The plant will be in Mode 5 during periods when refueling related movements of irradiated fuel in the reactor vessel are taking place. During Mode 5, selected AC sources, DC sources and associated electrical distribution systems will be required to be operable by the TS. If one of these required electrical systems, structures or components (SSCs) was to become inoperable, the existing TS Required Actions to immediately restore the required offsite power circuit, the required DG, the required DC electrical power subsystem, and the required AC and DC electrical power distribution subsystems have not been altered by the proposed change.

The operability requirements for those systems required to maintain the plant in a safe shutdown condition and maintain adequate decay heat removal are also not affected by the proposed changes to TS 3.8.2, 3.8.5 and 3.8.8. The existing refueling related TS requirements in section 3.9 of the TS regarding reactivity control and the operation of Shutdown Cooling mode of the RHR systems are not relaxed or altered.

Justification for the Proposed Changes

The proposed changes are acceptable because the loss of an electrical SSC will not prevent the plant's ability to mitigate the consequences of a postulated Fuel Handling Accident (FHA), as required, to ensure the consequences are within the regulatory acceptance limits. As documented in the AST FHA analysis, no credit for secondary containment, the standby gas treatment system, the control room emergency filtration system or any other electrically powered mitigation system is required or assumed. In addition, the loss of TS required electrical SSCs do not increase the probability of a FHA. The refueling bridge/jib crane used to move fuel during refueling is fail safe (i.e., would fail as-is) and is typically powered by non-safety power sources. The loss of power to this equipment would effectively result in the suspension of fuel handling activities. The movement of fuel could not be resumed until power was restored.

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ASSOCIATED WITH
THE ALTERNATE SOURCE TERM LICENSE AMENDMENT REQUEST AND TSTF-51
Attachment 1
Page 3 of 4**

Energy Northwest is committed to maintaining radiological doses as low as is reasonably achievable (ALARA) and is committed to managing outage risk by maintaining an appropriate defense-in-depth during outage activities. Plant Procedure Manual (PPM) 1.16.8A, "Outage Risk Management," mandates the development of a Shutdown Safety Plan. This procedure implements the guidance in NUMARC 91-06, "Guidelines for Industry Actions to Assess Shutdown Management." The Shutdown Safety Plan developed for each outage addresses the defense-in-depth for each of the key safety functions identified in NUMARC 91-06 and establishes contingency plans as appropriate to manage risk. Containment is one of the key safety functions identified in NUMARC 91-06 and is explicitly addressed in the Columbia Shutdown Safety Plan.

Consistent with the reviewer's note included in TSTF-51, revision 2 (which is the quoted text provided in this RAI), PPM 1.16.8A will be revised to require an assessment of the availability of the Standby Gas Treatment ventilation system and the Reactor Building Vent Exhaust Plenum radiation monitor with respect to the filtration and monitoring, respectively, of a postulated release from the fuel during the time periods when refueling related fuel handling activities are taking place. This procedure will also be revised to require a contingency plan to promptly close the secondary containment if a FHA with radiological consequences was to occur during these fuel handling activities.

Energy Northwest will continue to require and provide local area radiation monitoring during the movement of irradiated fuel that will serve to promptly detect any significant release of radioactive gases due to a FHA and prompt an appropriate response to an event of this type. The same area radiation monitors used to monitor the radiological conditions on the refueling floor during refueling activities will continue to be used after the approval and implementation of the requested TS changes. These monitors include: the spent fuel pool area radiation monitor, ARM-RE-2, and the refueling bridge/jib crane local alarming area radiation monitor.

The spent fuel pool radiation monitoring instrumentation is required to be OPERABLE by the current Licensee Controlled Specification (LCS) 1.3.7.5. This LCS is applicable "When fuel is stored in the Spent Fuel Pool." If this monitor was to become inoperable during fuel movement, the compensatory measure required by the LCS is to immediately provide portable continuous monitoring in the same vicinity. The setpoint for the spent fuel pool radiation monitor is required to be less than or equal to 20 mR/hr by the LCS.

If a radiological condition occurs that exceeds the setpoint, a "Refueling Floor Area Rad High" alarm is annunciated in the Control Room. The Annunciator Response Procedure (ARP), 4.602.A5, requires the suspension of all work activities (i.e., the suspension of any fuel movement activities) on the refueling floor and an evacuation of the area. This ARP also refers the operator to the Abnormal Condition Procedures ABN-RAD-HIGH and ABN-FUEL-HAND.

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION ASSOCIATED WITH
THE ALTERNATE SOURCE TERM LICENSE AMENDMENT REQUEST AND TSTF-51**

Attachment 1

Page 4 of 4

In addition to the ARP's reference to these Abnormal Condition Procedures, the alarming of the refueling bridge/jib crane radiation monitor (details of this monitor are provided below) is a specified entry condition to the ABN-FUEL-HAND procedure. The ABN-FUEL-HAND procedure will be revised to direct the operator to implement the contingency plans of the Safe Shutdown Plan for closing secondary containment and placing a train of SGT and the Reactor Building Vent Exhaust Plenum Monitor in service. This procedural direction will be applicable during outage related refueling activities.

The operation of the refueling bridge/jib crane local alarming area radiation monitor is a procedurally required prerequisite for refueling bridge operation. These requirements are contained in the System Operating Procedure 2.14.1, "Refueling Bridge Operation" and Fuel Handling and Refuel Activities Procedure 6.3.23, "Handling Irradiated Fuel in the Spent Fuel Pool." Procedure 2.14.1 requires the establishment of direct communication between the Refueling Bridge and the Control Room and verification that the reactor has been subcritical for at least 24 hours. During the performance of core alterations, this procedure requires maintaining continuous communication between the Refueling Bridge and the Control Room. Procedure 6.3.23 requires immediate notification of the Control Room in the event of fuel damage. As stated above, an alarming refueling bridge area radiation monitor is an entry condition for the ABN-FUEL-HAND procedure.

These procedurally required measures will provide reasonable assurance that if a FHA were to occur, it would be promptly identified, communicated to the Control Room, and the above committed contingency plans promptly initiated. The commitments provided in this letter, combined with the existing procedural requirements and administrative controls provide adequate justification for the requested TSTF-51 related TS changes.

LIST OF REGULATORY COMMITMENTS

1. PPM 1.16.8A will be revised to require an assessment of the availability of the Standby Gas Treatment ventilation system and the Reactor Building Vent Exhaust Plenum radiation monitor with respect to the filtration and monitoring, respectively, of a postulated release from the fuel during the time periods when refueling related fuel handling activities are taking place.
2. This procedure will also be revised to require a contingency plan to promptly close the secondary containment if a FHA with radiological consequences was to occur during these fuel handling activities.
3. Energy Northwest will continue to require and provide local area radiation monitoring during the movement of irradiated fuel that will serve to promptly detect any significant release of radioactive gases due to a FHA and prompt an appropriate response to an event of this type. The same area radiation monitors used to monitor the radiological conditions on the refueling floor during refueling activities will continue to be used after the approval and implementation of the requested TS changes. These monitors include: the spent fuel pool area radiation monitor, ARM-RE-2, and the refueling bridge/jib crane local alarming area radiation monitor.
4. The ABN-FUEL-HAND procedure will be revised to direct the operator to implement the contingency plans of the Safe Shutdown Plan for closing secondary containment and placing a train of SGT and the Reactor Building Vent Exhaust Plenum Monitor in service. This procedural direction will be applicable during outage related refueling activities.