

February 8, 2006  
GO2-06-019

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  
REGARDING LICENSE AMENDMENT REQUEST TO TECHNICAL  
SPECIFICATIONS ASSOCIATED WITH AC AND DC ELECTRICAL  
POWER**

Reference: Letter dated, May 31, 2005, WS Oxenford (Energy Northwest) to NRC,  
"License Amendment Request to Technical Specifications Associated with  
AC and DC Electrical Power"

Dear Sir or Madam:

On November 28, 2005, subsequent to discussions with NRC staff, Energy Northwest received a facsimile that transmitted a Request for Additional Information (RAI) related to the referenced submittal (TAC NO. MC7273). Attachment 1 herein contains responses to the questions detailed in the RAI. Attachment 2 contains revised marked-up pages of the referenced submittal to correct inconsistencies discovered when evaluating question 1 of the RAI. These revised marked-up pages do not invalidate any conclusions made in the significant hazards consideration pursuant to 10 CFR 50.92(c) that is contained in the referenced submittal. Attachment 3 contains a list of commitments made in this correspondence.

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If you have any questions or require additional information, please contact Mr. GV Cullen at (509) 377-6105.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the date of this letter.

Respectfully,



WS Oxenford  
Vice President, Technical Services  
Mail Drop PE04

- Attachments:
- (1) Response to Request for Additional Information regarding Technical Specification Change Request.
  - (2) Revised mark-up of page 4 of 35 of Attachment 1 (of the reference) and revised mark-up of pages 3.8.1-8, 3.8.1-10, 3.8.1-11 and 3.8.1-16 of Attachment 2 (of the reference).
  - (3) List of Commitments

cc:

- BS Mallett – NRC RIV
- BJ Benney – NRC NRR
- NRC Senior Resident Inspector/988C
- WA Horin – Winston & Strawn
- RN Sherman – BPA/1399
- TH Boyce – NRC NRR

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**Response to Request for Additional Information regarding  
Technical Specification Change Request**

**NRC Question 1**

1. The proposed change to Surveillance Requirements (SRs) 3.8.1.8, 3.8.1.11, 3.8.1.12, 3.8.1.16, 3.8.1.18, 3.8.1.19, 3.8.4.7 and 3.8.1.8 contains a Note that has been modified to add, "However portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced." Please describe the circumstances for each of these SRs that would necessitate using this note and explain what exactly will be done at power. In addition, clarify why the Note for SR 3.8.1.16 differs from other SRs Notes.

**Energy Northwest Response**

The SR notes would be applied if repairs or unanticipated corrective maintenance were performed in modes 1, 2, or 3, that would necessitate performance of any of these SRs for post maintenance testing to demonstrate operability in order to reestablish compliance with LCOs.

Performance of any of these SRs in modes 1, 2, or 3 is contingent upon an assessment that determines plant safety is maintained or enhanced. This assessment shall, as a minimum, consider the potential outcomes and transients associated with a failed surveillance, a successful surveillance, and a perturbation of the offsite or onsite system when they are tied together or operated independently for the surveillance; as well as operator procedures available to cope with these outcomes.

In response to the last sentence of question 1, a review of the proposed changes to the SR notes was performed. Inconsistencies were found in the notes associated with SRs 3.8.1.8, 3.8.1.11, 3.8.1.12, and 3.8.1.19. To correct this, revised page 4 of 35 of Attachment 1 and revised pages 3.8.1-8, 3.8.1-10, 3.8.1-11 and 3.8.1-16 of Attachment 2 are provided as Attachment 2 of this response. With these revised pages, all SR notes are consistent with TSTF-283-A, Rev. 3.

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**NRC Question 2**

2. Note 2 to SRs 3.8.1.9 and 3.8.1.10 and Note 3 to SR 3.8.1.14 state, "If performed with the DG synchronized with offsite power, it shall be performed at power factor.....however if the grid conditions do not permit, the power factor limit is not required to be met." Describe the grid conditions that would not permit the power factor limit to be satisfied and discuss the likelihood that these grid conditions would occur in the future.

**Energy Northwest Response**

Grid conditions that would not permit the power factor (pf) limit to be satisfied are discussed in paragraph (i) below and the likelihood of these conditions occurring is discussed in paragraph (ii).

(i) The Federal Columbia River Transmission System (FCRTS) as owned and operated by the Bonneville Power Administration (BPA) consists of 500kV, 230kV, and 115kV systems. BPA operates the grid from dispatch control centers that regulate voltage and frequency to a predetermined schedule or permissible range by changing and maintaining a balance between load demand and generation resources.

Energy Northwest and BPA have entered into a letter agreement which notes that BPA shall plan, design, and maintain that portion of the FCRTS required for power deliveries to Energy Northwest, at the point of delivery for station service, to an agreed upon standard. Typically this means that voltage at the interconnection to the grid is maintained above minimum levels for Columbia Generating Station auxiliary power system requirements.

At times, either during the day, from day to day, or season to season, due to dynamic grid power-flow that is associated with maintaining balance between load and available generation, grid voltage on a particular system such as the 230kV network in the region surrounding Columbia Generating Station is operating at the top of its range. This describes the grid condition that would challenge plant operators conducting an Emergency Diesel Generator (EDG) test while running in parallel with the offsite transmission system to satisfy the power factor (pf) criteria required by SRs 3.8.1.9, 3.8.1.10 and 3.8.1.14.

The EDGs are sized and capable of providing AC power at a lagging pf to carry the design load connected to the Class 1E bus while running isolated on the bus without preferred or backup offsite power sources. When called upon to auto start, connect to the bus, and load run, a normally functioning EDG will regulate the voltage at its 4.16 kV Class 1E bus to within 1% of its Automatic Voltage Regulator (AVR) setting. In order to parallel with an offsite transmission system power supply, the emergency generator must often use additional excitation system capacity to match grid voltage and to load the unit up to a representative lagging power factor load. This involves utilizing additional excitation system headroom above what is needed to supply design

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loads while running isolated on the safety bus and may actually reach or challenge full capacity ratings of the excitation system during routine testing when grid voltage runs high.

The EDGs are tested in accordance with plant Technical Specifications by running the unit in parallel with the offsite grid usually through the Startup auxiliary transformer. Parallel operation means that the emergency generator connected to the transmission system must satisfy the following conditions:

- The generator voltage must be the same as the transmission system voltage at the point of interconnection.
- The frequency of the oncoming generator must be slightly greater than the operating system frequency.
- The generator voltage must be in phase with the transmission system voltage.

To reach system voltage when the transmission system is running high prior to parallel operation (bullet one above) the operator must adjust the emergency generator terminal voltage to match (by increasing field excitation). Once connected to the offsite transmission system operating the emergency generator in parallel, the operator increases reactive loading (lagging pf) to the desired point by adjusting the voltage control switch on the automatic voltage regulator. Additionally, Columbia Generating Station's startup transformer (E-TR-S) does not have an automatic means to change tap settings; output taps are permanently set on the Startup transformer to deal with worst case voltages postulated for mitigating design basis accidents. Because of this design feature and the need to maintain the preferred offsite source above minimum levels for station service requirements (including accident mitigation), voltages at Columbia Generating Station's 4.16kV bus can be higher than 4.16kV during normal plant operation. This condition not only occurs during normal plant operation but is especially prevalent during light distribution system loading found when the plant is shutdown.

Considering the discussion above and depending upon actual conditions to reach full design load or accident load conditions, the emergency generator can be operated at or near its excitation system limits. To avoid this condition which can place the emergency generator at risk during routine testing, the applicable SRs have been modified with Note(s) which is further explained in NUREG 1434 (BWR 6 STS BASES).

(ii) The likelihood that these conditions would occur in the future from time to time is certain. Columbia Generating Station is located in a rural part of Washington far from large regional load centers such as Portland or Seattle and very close to large blocks of hydroelectric generation on the FCRTS. Voltage changes on the grid are both diurnal and seasonal (as well as weather dependent) in nature.

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In conclusion, to meet Technical Specification SR testing under grid conditions where additional excitation capacity is needed; EDG testing will be to a field current output of the AVR that approximates a lagging power factor load representative of design accident load while an EDG is running isolated. This satisfies the SR purpose of demonstrating that an EDG is capable of carrying or rejecting design load at a lagging power factor chosen to be representative of the actual design load that the EDG could experience.

**NRC Question 3**

3. Please confirm that the proposed power factor of 0.9 for DG-1 and DG-2, and 0.91 for DG-3 specified in SR 3.8.1.10 and SR 3.8.1.14 are in fact the actual loading power factors that these DGs will see during accident conditions.

**Energy Northwest Response**

The pf values stated in NRC question 3 above are based upon medium voltage bus load calculations for critical buses E-SM-7, E-SM-8 and E-SM-4. Values for pf are approximated or rounded to simplify testing and are representative of actual load pf expected during accident conditions.

**NRC Question 4**

4. The proposed Limiting Condition for Operation 3.8.4 Condition A requires that when one required Division 1 or 2 125 Vdc battery charger is inoperable restore the battery charger to operable status within 7 days.

**NRC Question 4.a**

- a. The licensee has requested to change the AOT extension for the battery charger from the current 2 hours to 7 days. Why 7 days? What is the basis for choosing 7 days not 3 days? Was it based on repair time, if yes, what type of repair are they anticipating?

**Energy Northwest Response**

The 7-day allowed outage time is requested to maintain consistency with TSTF- 360.

The 7-day restoration period is not based on any specifically anticipated repair activity. It is reasonable considering the tiered approach to restoring compliance with the LCO.

The 7-day restoration time for an inoperable (required) battery charger is contingent upon a focused and tiered approach to assuring adequate battery capability is maintained. The first priority (tiered action) is to minimize the battery discharge which is

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required to be terminated within 2 hours (Required Action A.1). Presuming the battery discharge can be terminated and the DC bus remains energized (as required by a separate LCO), there is reasonable basis for extending the restoration time beyond the 2-hour limit. The second tiered action proposes 12 hours to establish that the battery has sufficient capacity to perform its assumed duty cycle as measured by a float current of  $\leq 2$  amps. Compared to a plant shutdown in this condition (as is currently required) a 12-hour determination followed by a 7-day restoration period (this proposed change) is reasonable.

**NRC Question 4.b**

- b. Identify and justify compensatory measures that will be implemented during the proposed 7 day allowed outage time for an inoperable battery charger.

**Energy Northwest Response**

The compensatory measures for an inoperable (required) battery charger will be the proposed Required Actions A.1 and A.2 of LCO 3.8.4, "DC Sources – Operating," these actions are:

- Restore the battery terminal voltage to greater than or equal to the minimum established float voltage within 2 hours.
- Verify the battery float current is  $\leq 2$  amps once per 12 hours.

As discussed in TSTF-360 revision 1, the intent of this proposed change is to apply a more reasonable restoration time while focusing efforts on retaining battery capabilities, continuing to require battery operability, and maintaining the 2-hour restoration time for a de-energized DC distribution subsystem.

As discussed in TSTF-360, the proposed Required Action A.3 for LCO 3.8.4 provides for a 7-day restoration time for an inoperable battery charger. However, this time is contingent on a focused and tiered approach to assuring adequate battery capability is maintained. This first priority for the operator is to minimize the battery discharge, which is required to be terminated within 2 hours (Required Action A.1). Presuming that the battery discharge (if occurring) can be terminated and that the DC bus remains energized (as required by a separate LCO), there is reasonable basis for extending the restoration time for an inoperable charger beyond the 2-hour limit. The second tiered action (Required Action A.2) proposes 12-hours to establish that battery has sufficient capacity to perform its assumed duty cycle as measured by float current of  $\leq 2$  amps (which may involve some recharging of lost capacity that occurred during the initial 2 hours). Considering the present requirement for a plant shutdown in this condition compared to a 12-hour nominal float current verification (at the end of

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which it is reasonable to assume the battery has sufficient capacity) followed by a 7-day restoration period, this proposed relaxation is justified.

**NRC Question 4.c**

- c. When a single battery charger is removed from service due to testing or other factors, how is the load transferred to the other battery charger, and how long does it take to accomplish this connection? Does the other charger also undergo the same TS surveillance as the normally connected charger?

**Energy Northwest Response**

The 125 Vdc Division 1 and 2 systems have redundant chargers. Plant operating procedures provide direction to transfer the load from the in-service charger to the standby charger. This is done by placing the standby charger in service and then removing the in-service charger from service. This transfer takes less than 30 minutes. Both in-service and standby chargers undergo the same TS surveillance testing.

**NRC Question 4.d**

- d. Regarding your request to extend the battery charger allowed outage time (AOT) (limiting condition for operation (LCO) 3.8.4 Required ACTION A.3) to 7 days, the proposed Technical Specification (TS) Bases for this Required ACTION states the following:
- Required ACTION A.3 limits the restoration time for the inoperable battery charger to 7 days. This ACTION is applicable if an alternate means of restoring battery terminal voltage to greater than or equal to the minimum established float voltage has been used (e.g., balance of plant non-Class 1E battery charger).

Describe the 'alternate means' that Columbia Generating Station is crediting for this extended AOT.

**Energy Northwest Response**

The use of an alternate means of restoring terminal voltage would only be employed when both the in-service and redundant chargers are inoperable. When this is the case, either an existing spared in-place charger or a portable temporary charger would be used.



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**NRC Question 5**

5. Attachment 1, item H, indicates that a licensee controlled program for maintenance, monitoring, and restoration actions for batteries will be based on the recommendations of the Institute of Electrical and Electronics Engineer (IEEE) Standard 450-2002. The FSAR currently indicates that maintenance and monitoring of batteries are based on the recommendations of IEEE Standard 450-1975. Provide a commitment that maintenance, monitoring, and restoration will be based on the recommendations of IEEE Standard 450-2002. Describe and justify any exceptions to IEEE Standard 450-2002.

**Energy Northwest Response**

Energy Northwest will establish a licensee controlled program to perform maintenance and monitoring of station batteries based on IEEE Standard 450-2002, "Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications."

Energy Northwest takes no exceptions to IEEE Standard 450-2002.

**NRC Question 6**

6. Attachment 1, item 4, page 11, states that the wording for SR 3.8.4.6 will remain consistent with the current design basis, with the exception of deleting the Note. Provide justification for deleting the Note from this surveillance. In addition, provide justification why the current testing of battery charger to supply the required load for 1.5 hours provides adequate assurance of the battery charger operability. NUREG-1434 recommends the battery charger supply the required load for 8 hours.

**Energy Northwest Response**

The Note imposing mode restrictions was included in the current version of Technical Specifications to prevent perturbations of the DC system while the system is required to be in service. Columbia's Division 1 and 2, 125 Vdc systems feature installed redundant battery chargers. This design feature allows the battery charger load testing of SR 3.8.4.6 (re-designated as SR 3.8.4.2) to be performed with the charger isolated and does not affect the ability of the Division 1 and 2, 125 Vdc systems to perform their design safety function. Therefore removal of the note is justified. Removal of the note for the Division 3 and 250 Vdc systems is acceptable because Technical Specifications currently allow systems supported by these DC sources to be removed from service during modes 1, 2, or 3 for periods of time sufficient to conduct the battery charger load testing.

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As discussed in the NRC staff's SE for amendment 149 of Columbia's Technical Specifications, current testing requirements to load the chargers to at least 50% full load for 30 minutes, at least 75% load for 30 minutes, and 100% load for 30 minutes are acceptable because the 1.5 hour test duration is sufficient to determine charger operability and should detect problems normally detected by a longer (8 hour) duration. The test duration is sufficient to allow the temperature of the charger components to stabilize, and the step load changes during the test are intended to better verify proper operation of all charger components.

**NRC Question 7**

7. The description provided in the proposed TS Section 5.5.13, "Battery Monitoring and Maintenance Program," limits itself to the program, which is based on IEEE Standard 450. Provide a description based on IEEE Standard 450-2002 for how each battery parameter will be maintained that is being transferred from TS to this new program.

**Energy Northwest Response**

The following battery parameters are proposed to be transferred from the current TS LCO 3.8.6 to the proposed TS 5.5.13 "Battery Monitoring and Maintenance Program." These parameters will be maintained consistent with IEEE 450-2002 as follows:

Parameter	Surveillance Frequency	Action Level
Individual cell float voltage	quarterly	< 2.13 v
Electrolyte level	monthly	below top of active plate

**NRC Question 8**

8. Attachment 1, item 5, states that the wording in SR 3.8.4.7 Note 2 and SR 3.8.4.8 Note has been changed to clarify that the notes only apply to Division 1 and 2 125 Vdc batteries. Please clarify why these notes are not applicable to other Class 1E batteries.

**Energy Northwest Response**

The Division 3 battery supports operability of the HPCS system. The Technical Specifications allow Division 3 (HPCS) to be inoperable for up to 14 days with the plant in modes 1, 2, or 3. Deleting Division 3 from the note removes unnecessary mode restrictions for the Division 3 battery SRs.

With the Division 1 250 V battery inoperable, Technical Specifications require declaring supported systems (e.g., RCIC, certain PCIVs, etc) inoperable. Technical Specifications allows RCIC to be inoperable for up to 14 days and continued operation

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with supported PCIVs inoperable while operating the plant in modes 1, 2, or 3. Deleting the note removes unnecessary mode restrictions for the 250 V battery SRs.

**NRC Question 9**

9. In reference to the IEEE-485 sizing criteria, provide each Class 1E battery's available design margin.

**Energy Northwest Response**

The available design margin for the Class 1E batteries is 10%.

**NRC Question 10**

10. Provide the basis for the proposed battery float current monitoring criteria of less than or equal to 2 amperes.

**Energy Northwest Response**

The 2 ampere battery float current limit in the proposed Required Actions of LCOs 3.8.4, 3.8.5, and 3.8.6 is a "bracketed" value in TSTF-360. As such, it was evaluated and determined to be conservative with respect to the design specifications of Columbia's DC power sources systems. This evaluation used the approach described in the Kyle Floyd white paper "A Proposed Method for Selecting the Return to Service Current Limit for Safety-Related Batteries" that is referred to in "NRC Comment #1" in TSTF-360.

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**Revised mark-up of page 4 of 35 of Attachment 1 (of the reference)**

**and**

**Revised mark-up of pages 3.8.1-8, 3.8.1-10, 3.8.1-11 and 3.8.1-16 of  
Attachment 2 (of the reference)**

# **ATTACHMENT 1**

## **Evaluation of Proposed Changes**

### **2.0 PROPOSED CHANGES**

Energy Northwest has reviewed the proposed changes for impact on previous submittals awaiting NRC approval for Columbia, and has determined there is no technical impact.

A markup of the affected TS pages is provided in Attachment 2. Attachment 3 provides changes to the affected TS Bases pages. Information contained in Attachment 3 is provided for information only.

#### **2.1 TSTF 283-A Proposed Changes**

The following proposed changes would modify the existing TS to allow more flexibility for DG and battery testing, when required to reestablish OPERABILITY following corrective maintenance, corrective modification, deficient or incomplete surveillance testing, and other unanticipated OPERABILITY concerns during plant operation, in accordance with TSTF-283, Revision 3. The changes would be implemented by revising the applicable Note associated with each affected surveillance.

- SR 3.8.1.8 currently contains a Note which states:

"The automatic transfer function of this Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR."

For the proposed change to this SR, this Note would be replaced with the following Note:

*THIS*  
"The automatic transfer function of this Surveillance shall not normally be performed in MODE 1 or 2. However, ~~portions of the~~ Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR."

- SR 3.8.1.11 currently contains Note 2 which states:

"This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR."

For the proposed change to this SR, this Note would be replaced with the following Note 2:

"This Surveillance shall not normally be performed in MODE 1, 2, or 3. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR."

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6    Verify each required fuel oil transfer subsystem operates to automatically transfer fuel oil from the storage tank to the day tank.</p>	<p>92 days</p>
<p>SR 3.8.1.7    -----NOTE----- All DG starts may be preceded by an engine prelube period. ----- Verify each required DG starts from standby condition and achieves:</p> <ul style="list-style-type: none"> <li>a.    For DG-1 and DG-2 in <math>\leq 15</math> seconds, voltage <math>\geq 3910</math> V and frequency <math>\geq 58.8</math> Hz, and after steady state conditions are reached, maintains voltage <math>\geq 3910</math> V and <math>\leq 4400</math> V and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz; and</li> <li>b.    For DG-3, in <math>\leq 15</math> seconds, voltage <math>\geq 3910</math> V and frequency <math>\geq 58.8</math> Hz, and after steady state conditions are reached, maintains voltage <math>\geq 3910</math> V and <math>\leq 4400</math> V and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz.</li> </ul>	<p>184 days</p>
<p>SR 3.8.1.8    -----NOTE----- The automatic transfer function of this Surveillance shall not be performed in MODE 1 or 2. <del>However,</del> Credit may be taken for unplanned events that satisfy this SR. ----- Verify automatic and manual transfer of the power supply to safety related buses from the startup offsite circuit to the backup offsite circuit.</p>	<p>24 months</p>

THIS *However, portions of the surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.* (continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. All DG starts may be preceded by an engine prelube period.</li> <li>2. This Surveillance shall not be performed in MODE 1, 2, or 3. <sup>normally</sup> However, credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> <li>a. De-energization of emergency buses;</li> <li>b. Load shedding from emergency buses for Divisions 1 and 2; and</li> <li>c. DG auto-starts from standby condition and:               <ol style="list-style-type: none"> <li>1. energizes permanently connected loads in <math>\leq 15</math> seconds for DG-1 and DG-2, and in <math>\leq 18</math> seconds for DG-3,</li> <li>2. energizes auto-connected shutdown loads,</li> <li>3. maintains steady state voltage <math>\geq 3910</math> V and <math>\leq 4400</math> V,</li> <li>4. maintains steady state frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz, and</li> <li>5. supplies permanently connected and auto-connected shutdown loads for <math>\geq 5</math> minutes.</li> </ol> </li> </ol>	<p>24 months</p>

PORTIONS OF THE

However, ~~the~~ surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. All DG starts may be preceded by an engine prelube period.</li> <li>2. This Surveillance shall not be performed in MODE 1 or 2. <i>normally</i> However, credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>-----</p> <p><i>PORTIONS OF THE</i> However, <del>this</del> surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced.</p> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each required DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> <li>a. For DG-1 and DG-2, in <math>\leq 15</math> seconds achieves voltage <math>\geq 3910</math> V, and after steady state conditions are reached, maintains voltage <math>\geq 3910</math> V and <math>\leq 4400</math> V and, for DG-3, in <math>\leq 15</math> seconds achieves voltage <math>\geq 3910</math> V, and after steady state conditions are reached, maintains voltage <math>\geq 3910</math> V and <math>\leq 4400</math> V;</li> <li>b. In <math>\leq 15</math> seconds, achieves frequency <math>\geq 58.8</math> Hz and after steady state conditions are achieved, maintains frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz;</li> <li>c. Operates for <math>\geq 5</math> minutes;</li> <li>d. Permanently connected loads remain energized from the offsite power system; and</li> <li>e. Emergency loads are auto-connected to the offsite power system.</li> </ol>	<p>24 months</p>

(continued)



SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.18</p> <p>-----NOTE-----  <i>normally</i>            This Surveillance shall not be performed in MODE 1, 2, or 3. <del>However</del> Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify interval between each sequenced load block is within <math>\pm 10\%</math> of design interval for each time delay relay.</p>	<p>24 months</p>
<p>SR 3.8.1.19</p> <p>-----NOTES-----</p> <p>1. All DG starts may be preceded by an engine prelube period.</p> <p>2. This Surveillance shall not be performed in MODE 1, 2, or 3. <i>normally</i>  <del>However</del> Credit may be taken for unplanned events that satisfy this SR.</p> <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ul style="list-style-type: none"> <li>a. De-energization of emergency buses;</li> <li>b. Load shedding from emergency buses for DG-1 and DG-2; and</li> <li>c. DG auto-starts from standby condition and:               <ul style="list-style-type: none"> <li>1. energizes permanently connected loads in <math>\leq 15</math> seconds,</li> <li>2. energizes auto-connected emergency loads,</li> <li>3. maintains steady state voltage <math>\geq 3910</math> V and <math>\leq 4400</math> V,</li> </ul> </li> </ul>	<p>24 months</p> <p>(continued)</p>

**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING  
LICENSE AMENDMENT REQUEST TO TECHNICAL SPECIFICATIONS  
ASSOCIATED WITH AC AND DC ELECTRICAL POWER**

Attachment 3

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**List of Commitments**

1. Energy Northwest will establish a licensee controlled program to perform maintenance and monitoring of station batteries based on the recommendations of IEEE-450-2002, "Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications."