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June 15, 2006
GO2-06-092

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
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Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397 SUPPLEMENTAL RESPONSE TO GENERIC LETTER 2006-02, "GRID RELIABILITY AND THE IMPACT ON PLANT RISK AND THE OPERABILITY OF OFFSITE POWER"**

Reference: Letter dated April 3, 2006, from WS Oxenford (Energy Northwest), to NRC, "Response to Generic Letter 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power'"

Dear Sir or Madam:

On April 3, 2006 Energy Northwest submitted, pursuant to 10 CFR 50.54(f), the referenced response to Generic Letter (GL) 2006-02. Submittal of the requested material was a collaborative effort between Energy Northwest and the Bonneville Power Administration (BPA) and the responses were compiled in accordance with a mutual non-disclosure agreement.

The response contained information designated as Critical Energy Infrastructure Information and was therefore submitted pursuant to 10 CFR 2.390 and the guidance in Regulatory Issue Summary (RIS) 2005-26 as Sensitive Unclassified Non-safeguards Information which should be withheld from public disclosure.

Subsequent to submittal of the referenced GL response, your staff contacted Energy Northwest and requested that some or all material be declassified in order to be consistent with industry responses.

In response to the staff's request, BPA and Energy Northwest reviewed the GL response and determined that portions of the response could indeed be made available for public review in order to honor the staff's request. That information available for public disclosure is contained in the enclosure hereto.

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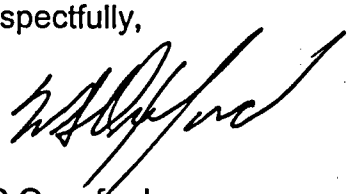
There are no commitments being made to the NRC by this letter.

Should you have any questions or desire additional information regarding this matter, please call 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

Enclosure: Supplemental Response to Generic Letter 2006-02, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"

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

The following provides the NRC Questions contained in Generic Letter (GL) 2006-02 in italicized print along with Energy Northwest (EN) response.

I. Use of protocols between the Nuclear Power Plant (NPP) licensee and the Transmission System Operator (TSO), Independent System Operator (ISO), or Reliability Coordinator/Authority (RC/RA) and the use of analysis tools by TSOs to assist NPP licensee in monitoring grid conditions to determine the operability of offsite power systems under plant Technical Specifications (TS).

GDC 17, 10 CFR Part 50, Appendix A, requires that licensees minimize the probability of the loss of power from the transmission network given a loss of the power generated by the nuclear power unit(s).

1. Use of protocols between the NPP licensee and the TSO, ISO, or RC/RA to assist the NPP licensee in monitoring grid conditions to determine the operability of offsite power systems under plant TS.

NRC Question 1(a):

(a) Do you have a formal agreement or protocol with your TSO?

EN Response:

Response not for public disclosure.

NRC Question 1(b):

(b) Describe any grid conditions that would trigger a notification from the TSO to the NPP licensee and if there is a time period required for the notification.

EN Response:

Response not for public disclosure.

NRC Question 1(c):

(c) Describe any grid conditions that would cause the NPP licensee to contact the TSO. Describe the procedures associated with such a communication. If you do not have procedures, describe how you assess grid conditions that may cause the NPP licensee to contact the TSO.

EN Response:

The primary procedures that require Columbia Generating Station (CGS) to contact Bonneville Power Administration (BPA) pertaining to grid conditions are titled "ABN-ELEC-GRID" and "ABN-GENERATOR." The plant output is to the 500 kV grid network. Offsite power is provided to the plant by the 230 kV and

115 kV grid networks. The conditions for entry into procedure "ABN-ELEC-GRID" that require subsequent action for CGS to contact BPA involve conditions where CGS has indication or information that the current 500 kV system condition is degraded, and cannot be immediately restored, the current 230 kV voltage supply to CGS is less than the required limit and is not immediately restored to TS limits or the current 115 kV voltage supply to CGS is less than the required limit and is not immediately restored to TS limits.

The conditions for entry into procedure "ABN-GENERATOR" and subsequent action for CGS to contact BPA involve conditions where CGS detects Main Generator Power Oscillations or other generator abnormalities.

Activities that involve a plant startup, shutdown, down power or plant scram are controlled by procedure that require CGS to communicate with BPA as these activities result in changing CGS loading on the 230 kV grid network or affect CGS support of the 500 kV grid network.

NRC Question 1(d):

(d) Describe how NPP operators are trained and tested on the use of the procedures or assessing grid conditions in question 1(c).

EN Response:

Training is conducted for CGS operators on assessing grid conditions using the procedures described in question 1(c). The training primarily includes classroom procedure training. Simulator training is also conducted for power restoration.

For further details, see response to question 3 (f).

NRC Question 1(e):

(e) If you do not have a formal agreement or protocol with your TSO, describe why you believe you continue to comply with the provisions of GDC 17 as stated above, or describe what actions you intend to take to assure compliance with GDC 17.

EN Response:

EN has a formal agreement with BPA. The agreement is documented in Letter Agreement 04TX-11739, signed October 2004. Thus, this question is not applicable.

NRC Question 1(f):

(f) If you have an existing formal interconnection agreement or protocol that ensures adequate communication and coordination between the NPP licensee

and the TSO, describe whether this agreement or protocol requires that you be promptly notified when the conditions of the surrounding grid could result in degraded voltage (i.e., below TS nominal trip setpoint value requirements; including NPP licensees using allowable value in its TSs) or LOOP after a trip of the reactor unit(s).

EN Response:

The existing formal interface agreement, between BPA and EN ensures communication between CGS and BPA at Munro Control Center and Dittmer Control Center when the conditions of the surrounding grid could result in degraded voltage. Notification is triggered at an alarm level above the nominal trip setpoint value requirements when either the degraded voltage real time or the predicted levels based on the contingencies [see response to Question 2(a)] are identified. In addition, there is a Dispatcher Standing Order that requires immediate notification from BPA to CGS anytime the PNSC notifies BPA of any affected reliability of the offsite sources to CGS.

NRC Question 1(g):

(g) Describe the low switchyard voltage conditions that would initiate operation of plant degraded voltage protection.

EN Response:

Response not for public disclosure.

2. Use of criteria and methodologies to assess whether the offsite power system will become inoperable as a result of a trip of your NPP.

NRC Question 2(a):

(a) Does your NPP's TSO use any analysis tools, an online analytical transmission system studies program, or other equivalent predictive methods to determine the grid conditions that would make the NPP offsite power system inoperable during various contingencies? If available to you, please provide a brief description of the analysis tool that is used by the TSO.

EN Response:

Response not for public disclosure.

NRC Question 2(b):

(b) Does your NPP's TSO use an analysis tool as the basis for notifying the NPP licensee when such a condition is identified? If not, how does the TSO determine if conditions on the grid warrant NPP licensee notification?

EN Response:

BPA and PNSC use the previously described analysis tool as a basis for reporting predicted grid voltage conditions with potential impact to CGS station service. For actual degraded voltage conditions, an alarm has been established to alert Munro Control Center (responsible for 230 kV system) that voltage at the Ashe bus (and on the 230 kV tie line) that serves CGS is below the alarm level and that action should be taken immediately to restore capability. Likewise, if the PNSC (responsible for the reliability function of the system) determines that predicted voltage at the Ashe bus would be below the alarm level due to certain analyzed contingencies (such as CGS post trip), the PNSC will notify BPA to initiate action to restore required grid capability. The Munro Control Center notifies CGS of the predicted condition, including the predicted voltage levels, for CGS to determine if the offsite source is capable of performing its TS required function.

NRC Question 2(c):

(c) If your TSO uses an analysis tool, would the analysis tool identify a condition in which a trip of the NPP would result in switchyard voltages (immediate and/or long-term) falling below TS nominal trip setpoint value requirements (including NPP licensees using allowable value in its TSs) and consequent actuation of plant degraded voltage protection? If not, discuss how such a condition would be identified on the grid.

EN Response:

Response not for public disclosure.

NRC Question 2(d):

(d) If your TSO uses an analysis tool, how frequently does the analysis tool program update?

EN Response:

Response not for public disclosure.

NRC Question 2(e):

(e) Provide details of analysis tool-identified contingency conditions that would trigger an NPP licensee notification from the TSO.

EN Response:

Response not for public disclosure.

NRC Question 2(f):

(f) If an interface agreement exists between the TSO and the NPP licensee, does it require that the NPP licensee be notified of periods when the TSO is unable to determine if offsite power voltage and capacity could be inadequate? If so, how does the NPP licensee determine that the offsite power would remain operable when such a notification is received?

EN Response:

Response not for public disclosure.

NRC Question 2(g):

(g) After an unscheduled inadvertent trip of the NPP, are the resultant switchyard voltages verified by procedure to be bounded by the voltages predicted by the analysis tool?

EN Response:

Verification that actual post trip grid voltages are bounded by the predicted voltage is not currently in our agreement with BPA or in our procedures to perform. If the voltages following an unscheduled trip of CGS are below the degraded voltage relay setpoints; the actual system voltage alarms will be initiated and corrective action taken. However, correlation between the actual and predicted voltage level would require a post trip verification action by BPA. The actual SCADA data for the time period preceding the plant trip and loading of the offsite power source and the analysis obtained on a 10 minute interval may not correlate unless grid conditions are in a relatively steady state condition prior to the plant trip or grid event. Although the predicted voltage can be rerun with the reconstructed grid configuration, SCADA data, and grid load flow conditions just prior to the trip, the accuracy of this reconstructed grid state and its predicted condition to actual post trip voltage has not been verified by CGS.

NRC Question 2(h):

(h) If an analysis tool is not available to the NPP licensee's TSO, do you know if there are any plans for the TSO to obtain one? If so, when?

EN Response:

Analysis tools are utilized by BPA. This question does not apply.

NRC Question 2(i):

(i) If an analysis tool is not available, does your TSO perform periodic studies to verify that adequate offsite power capability, including adequate NPP post-trip switchyard voltages (immediate and/or long-term), will be available to the NPP licensee over the projected timeframe of the study?

EN Response:

Response not for public disclosure.

NRC Question 2(i)(a):

(a) Are the key assumptions and parameters of these periodic studies translated into TSO guidance to ensure that the transmission system is operated within the bounds of the analyses?

EN Response:

Response not for public disclosure.

NRC Question 2(i)(b):

(b) If the bounds of the analyses are exceeded, does this condition trigger the notification provisions discussed in question 1 above?

EN Response:

Response not for public disclosure.

NRC Question 2(j):

(j) If your TSO does not use, or you do not have access to the results of an analysis tool, or your TSO does not perform and make available to you periodic studies that determine the adequacy of offsite power capability, please describe why you believe you comply with the provisions of GDC 17 as stated above, or describe what compensatory actions you intend to take to ensure that the offsite

power system will be sufficiently reliable and remain operable with high probability following a trip of your NPP.

EN Response:

BPA uses analysis tools and makes results available to CGS. CGS complies with provisions of GDC 17 as described in the licensing basis for CGS.

3. ***Use of criteria and methodologies to assess whether the NPP's offsite power system and safety-related components will remain operable when switchyard voltages are inadequate.***

NRC Question 3(a):

(a) If the TSO notifies the NPP operator that a trip of the NPP, or the loss of the most critical transmission line or the largest supply to the grid would result in switchyard voltages (immediate and/or long-term) below TS nominal trip setpoint value requirements (including NPP licensees using allowable value in its TSs) and would actuate plant degraded voltage protection, is the NPP offsite power system declared inoperable under the plant TSs? If not, why not?

EN Response:

Response not for public disclosure.

NRC Question 3(b):

(b) If onsite safety-related equipment (e.g., emergency diesel generators or safety-related motors) is lost when subjected to a double sequencing (LOCA with delayed LOOP event) as a result of the anticipated system performance and is incapable of performing its safety functions as a result of responding to an emergency actuation signal during this condition, is the equipment considered inoperable? If not, why not?

EN Response:

Double sequencing or what is referred to as a LOCA with delayed LOOP is not considered in the CGS licensing basis. The plant is not designed or analyzed for double sequencing scenarios involving starting ECCS pumps responding to LOCA auto start signals, load shedding the ECCS due to delayed LOOP, then re-starting the ECCS when vital bus source selection logic is satisfied and the vital bus is re-powered. An engineering evaluation has not been performed on double sequencing. However, the plant is designed to minimize the potential of de-energizing the ECCS pumps, if a delayed turbine trip should occur. A fast transfer design between the normal auxiliary supply breakers and the 230 kV offsite supply breakers assures that if the ECCS pumps are running, they will

continue to operate and not trip off and restart upon energization by the 230 kV source. Further, due to the degree of independence between the 500 kV and the 230 kV and 115 kV transmission grids, a plant trip is highly unlikely to result in a loss of the offsite power sources causing a delayed LOOP. If on site safety related equipment is lost (i.e., incapable of performing safety function(s) in accordance with applicable TS) then this equipment is declared inoperable.

NRC Question 3(c):

(c) Describe your evaluation of onsite safety-related equipment to determine whether it will operate as designed during the condition described in question 3(b).

EN Response:

An engineering evaluation has not been performed on double sequencing.

NRC Question 3(d):

(d) If the NPP licensee is notified by the TSO of other grid conditions that may impair the capability or availability of offsite power, are any plant TS action statements entered? If so, please identify them.

EN Response:

If CGS is notified by BPA of other grid conditions that may impair the capability or availability of offsite power to CGS, compliance with TS LCO 3.8.1 would be evaluated, and if appropriate, Required Actions and Completion Times would be followed.

NRC Question 3(e):

(e) If you believe your plant TSs do not require you to declare your offsite power system or safety-related equipment inoperable in any of these circumstances, explain why you believe you comply with the provisions of GDC 17 and your plant TSs, or describe what compensatory actions you intend to take to ensure that the offsite power system and safety-related components will remain operable when switchyard voltages are inadequate.

EN Response:

Except as noted in the response to Question 3(a) and 3(d), plant operators at CGS would conservatively declare offsite power systems or safety related equipment inoperable in accordance with LCO 3.8.1 if any of the previously postulated circumstances occurred resulting in the inability of these systems to perform their design safety functions. CGS complies with provisions of GDC 17 as described in the licensing basis for CGS.

NRC Question 3(f):

(f) Describe if and how NPP operators are trained and tested on the compensatory actions mentioned in your answers to questions 3(a) through (e).

EN Response:

Training is conducted for NPP operators on the procedure "ABN-ELEC-GRID," Technical Specifications, PPM 1.3.66 (Operability Determination), and Plant Procedure Usage in the following areas:

- Loss of Off-Site Electrical Power
- Station Blackout Recovery
- Operability Determination
- Technical Specifications
- Conduct of Operations

Plant operators are trained in the use of the "ABN-ELEC-GRID" procedures per the 2-year training plan. The compensatory actions are contained within procedures at CGS. Evaluated simulator scenarios are the primary method of testing to assure that operators have sufficient skill and knowledge.

4. Use of criteria and methodologies to assess whether the offsite power system will remain operable following a trip of your NPP.

NRC Question 4(a):

(a) Do the NPP operators have any guidance or procedures in plant TS bases sections, the final safety analysis report, or plant procedures regarding situations in which the condition of plant-controlled or -monitored equipment (e.g., voltage regulators, auto tap changing transformers, capacitors, static VAR compensators, main generator voltage regulators) can adversely affect the operability of the NPP offsite power system? If so, describe how the operators are trained and tested on the guidance and procedures.

EN Response:

Response not for public disclosure.

NRC Question 4(b):

(b) If your TS bases sections, the final safety analysis report, and plant procedures do not provide guidance regarding situations in which the condition of plant-controlled or -monitored equipment can adversely affect the operability of the NPP offsite power system, explain why you believe you comply with the

provisions of GDC 17 and the plant TSs, or describe what actions you intend to take to provide such guidance or procedures.

EN Response:

CGS complies with provisions of GDC 17 as described in the licensing basis for CGS.

II. Use of NPP licensee/TSO protocols and analysis tool by TSOs to assist NPP licensees in monitoring grid conditions for consideration in maintenance risk assessments.

The Maintenance Rule (10 CFR 50.65(a)(4)) requires that licensees assess and manage the increase in risk that may result from proposed maintenance activities before performing them.

5. Performance of grid reliability evaluations as part of the maintenance risk assessments required by 10 CFR 50.65(a)(4).

NRC Question 5(a):

(a) Is a quantitative or qualitative grid reliability evaluation performed at your NPP as part of the maintenance risk assessment required by 10 CFR 50.65(a)(4) before performing grid-risk-sensitive maintenance activities? This includes surveillances, post-maintenance testing, and preventive and corrective maintenance that could increase the probability of a plant trip or LOOP or impact LOOP or SBO coping capability, for example, before taking a risk-significant piece of equipment (such as an EDG, a battery, a steam-driven pump, an alternate AC power source) out-of-service?

EN Response:

Quantitative risk evaluations are performed via the Sentinel program which is a risk evaluation tool based on a blended approach of deterministic as well as probabilistic assessments. Certain grid conditions will require input to the Sentinel program for risk assessment, (e.g., loss of one or more TR-S offsite power sources, severe weather, 500KV grid stability threatened). These are proceduralized in PPM 1.5.14, "Risk Assessment and Management for Maintenance/Surveillance Activities." In addition to the Sentinel analysis, qualitative evaluations are performed by review of the BPA OASIS website which posts upcoming grid maintenance activities ensuring that plant grid risk activities are planned around the BPA work. This approach to maintenance complies with 10 CFR 50.65(a)(4).

NRC Question 5(b):

(b) Is grid status monitored by some means for the duration of the grid-risk-sensitive maintenance to confirm the continued validity of the risk assessment and is risk reassessed when warranted? If not, how is the risk assessed during grid-risk-sensitive maintenance?

EN Response:

Response not for public disclosure.

NRC Question 5(c):

(c) Is there a significant variation in the stress on the grid in the vicinity of your NPP site caused by seasonal loads or maintenance activities associated with critical transmission elements? Is there a seasonal variation (or the potential for a seasonal variation) in the LOOP frequency in the local transmission region? If the answer to either question is yes, discuss the time of year when the variations occur and their magnitude.

EN Response:

Response not for public disclosure.

NRC Question 5(d):

(d) Are known time-related variations in the probability of a LOOP at your plant site considered in the grid-risk-sensitive maintenance evaluation? If not, what is your basis for not considering them?

EN Response:

The CGS LOOP frequency used in the PRA does not consider time-related variations mainly because there is no reliable data. Columbia's PRA was developed consistent with NUREG/CR-5496 which does not consider time-related variations. Risk management actions associated with certain potentially risk significant planned maintenance activities assure that performing maintenance when grid stress conditions could be potentially high is avoided. For example, prior to and during the performance of potentially risk significant maintenance on an emergency diesel generator, procedures require contacting BPA for the status of grid conditions to assure adequate capability of the offsite circuits.

NRC Question 5(e):

(e) Do you have contacts with the TSO to determine current and anticipated grid conditions as part of the grid reliability evaluation performed before conducting grid-risk-sensitive maintenance activities?

EN Response:

The Dittmer or Munro Control Centers are contacted, as appropriate, when grid-risk-sensitive maintenance activities are first scheduled. CGS requests that near grid BPA activities are minimized during these times. BPA posts maintenance activities on their OASIS website with at least a 45-day lead time. This website is reviewed weekly by the CGS Unit Coordinators. Phone communications from BPA provides follow-up to the website information. Any activities which may impact CGS are evaluated against plant activities to ensure the risk is understood and manageable per procedure PPM 1.3.76 and WCI-4 "Online Work Control Process." Contingency plans would document requirements for periodic communications to BPA during the grid-risk-sensitive maintenance activities.

NRC Question 5(f):

(f) Describe any formal agreement or protocol that you have with your TSO to assure that you are promptly alerted to a worsening grid condition that may emerge during a maintenance activity.

EN Response:

Response not for public disclosure.

NRC Question 5(g):

(g) Do you contact your TSO periodically for the duration of the grid-risk-sensitive maintenance activities?

EN Response:

BPA is periodically contacted for the duration of the grid-risk-sensitive maintenance activities as determined by plant operators as part of any contingency plan that is in place for the activity in accordance with procedure PPM 1.3.76.

NRC Question 5(h):

(h) If you have a formal agreement or protocol with your TSO, describe how NPP operators and maintenance personnel are trained and tested on this formal agreement or protocol.

EN Response:

No formal training is conducted on the Letter of Agreement with BPA. Aspects of the Letter of Agreement are implemented through various plant procedures and department instructions. Training on these procedures is part of Operations training. A copy of the Letter of Agreement is kept in the Control Room.

NRC Question 5(i):

(i) If your grid reliability evaluation, performed as part of the maintenance risk assessment required by 10 CFR 50.65(a)(4), does not consider or rely on some arrangement for communication with the TSO, explain why you believe you comply with 10 CFR 50.65(a)(4).

EN Response:

Communications with BPA are a part of CGS's maintenance risk assessment process. This question does not apply.

NRC Question 5(j):

(j) If risk is not assessed (when warranted) based on continuing communication with the TSO throughout the duration of grid-risk-sensitive maintenance activities, explain why you believe you have effectively implemented the relevant provisions of the endorsed industry guidance associated with the maintenance rule.

EN Response:

Continued communications during grid-risk-sensitive maintenance activities is part of CGS's maintenance risk assessment process. This question does not apply.

NRC Question 5(k):

(k) With respect to questions 5(i) and 5(j), you may, as an alternative, describe what actions you intend to take to ensure that the increase in risk that may result from proposed grid-risk-sensitive activities is assessed before and during grid-risk-sensitive maintenance activities, respectively.

EN Response:

Energy Northwest has no alternative response to questions 5(i) and 5(j).

6. Use of risk assessment results, including the results of grid reliability evaluations, in managing maintenance risk, as required by 10 CFR 50.65(a)(4).

NRC Question 6(a):

(a) Does the TSO coordinate transmission system maintenance activities that can have an impact on the NPP operation with the NPP operator?

EN Response:

In addition to posting BPA maintenance activities on a website 45 days in advance of the scheduled work, BPA communicates upcoming maintenance activities directly to the CGS Unit Coordinator. This communication occurs through periodic meetings, the OASIS web site, or via telephone in advance of the activity. This allows time for the CGS Unit Coordinator to make changes to the scheduling of activities or to ask BPA to reschedule activities that may conflict with CGS work.

NRC Question 6(b):

(b) Do you coordinate NPP maintenance activities that can have an impact on the transmission system with the TSO?

EN Response:

The CGS Unit Coordinator contacts the appropriate BPA Control Center when maintenance activities that can impact the grid are initially scheduled. BPA is requested to not perform discretionary grid risk activities for the duration of the activity.

NRC Question 6(c):

(c) Do you consider and implement, if warranted, the rescheduling of grid-risk-sensitive maintenance activities (activities that could (i) increase the likelihood of a plant trip, (ii) increase LOOP probability, or (iii) reduce LOOP or SBO coping capability) under existing, imminent, or worsening degraded grid reliability conditions?

EN Response:

An initial qualitative evaluation is performed when CGS work is scheduled. Grid risk sensitive work is not scheduled coincident with BPA grid risk sensitive work per procedure WCI-4. If degraded grid conditions exist or are imminent, grid-risk-sensitive maintenance activities would be postponed until grid conditions are returned to normal. Additional evaluations are performed using the Sentinel risk assessment program which uses a variable (HRE_LOSP) to evaluate an

increased potential for a loss of station power due to certain grid conditions, (e.g., loss of one or more TR-S offsite power sources, severe weather, or 500 kV grid stability threatened).

NRC Question 6(d):

(d) If there is an overriding need to perform grid-risk-sensitive maintenance activities under existing or imminent conditions of degraded grid reliability, or continue grid-risk-sensitive maintenance when grid conditions worsen, do you implement appropriate risk management actions? If so, describe the actions that you would take. (These actions could include alternate equipment protection and compensatory measures to limit or minimize risk.)

EN Response:

Contingency plans would be put in place to ensure actions are taken to minimize the risk. For example, risk sensitive activities would be stopped or postponed, safety and important to safety equipment would be protected. Plant procedure PPM 1.3.76, "Integrated Risk Management" contains requirements for managing risk sensitive work.

NRC Question 6(e):

(e) Describe the actions associated with questions 6(a) through 6(d) above that would be taken, state whether each action is governed by documented procedures and identify the procedures, and explain why these actions are effective and will be consistently accomplished.

EN Response:

The specific actions are described in responses to 6(a) through 6(d) above. These actions are implemented through approved procedures as indicated. Management oversight ensures these actions will be effective and consistently accomplished. Discrepancies will be identified and resolved via CGS's corrective action program.

NRC Question 6(f):

(f) Describe how NPP operators and maintenance personnel are trained and tested to assure they can accomplish the actions described in your answers to question 6(e).

EN Response:

Through the use of the systematic approach to training, the training needs of items 6(e) above have been identified to include the following:

- Operators are training on conduct of maintenance activities as part of their OJT/OJE qualification checklist. Training on procedure use and Conduct of Operations provides the operators guidance on implementing procedures requiring communications and coordination with BPA for activities that could impact grid reliability. Additionally, they are trained in risk management and the requirements of PPM 1.3.76.
- Shift Managers receive additional work management and risk management training in their OJT/OJE qualification checklist.
- Maintenance personnel receive training on the electrical distribution system and transformer yard specific procedures (Qualification ELEX).
- Work Control personnel have an Indoctrination Checklist to document training and procedure review per WCI-5 Work Control Indoctrination and Training.

Testing is accomplished through the use of written examinations (initial training exams and requalification cycle examinations) and evaluated dynamic simulator scenarios. Training effectiveness evaluations are conducted based on the SAT process which takes into consideration plant performance data, plant assessments, the operating experience program, and the corrective action program. Training needs identified using the above data are integrated into the training program through the CRC and TAG processes.

NRC Question 6(g):

(g) If there is no effective coordination between the NPP operator and the TSO regarding transmission system maintenance or NPP maintenance activities, please explain why you believe you comply with the provisions of 10 CFR 50.65(a)(4).

EN Response:

Effective coordination is maintained. This question is not applicable.

NRC Question 6(h):

(h) If you do not consider and effectively implement appropriate risk management actions during the conditions described above, explain why you believe you effectively addressed the relevant provisions of the associated NRC-endorsed industry guidance.

EN Response:

Appropriate risk management is implemented effectively. This question is not applicable.

NRC Question 6(i):

(i) You may, as an alternative to questions 6(g) and 6(h) describe what actions you intend to take to ensure that the increase in risk that may result from grid-risk-sensitive maintenance activities is managed in accordance with 10 CFR 50.65(a)(4).

EN Response:

EN has no alternative response to questions 6(g) and 6(h).

III. Offsite power restoration procedures in accordance with 10 CFR 50.63 as developed in Section2 of RG 1.155

Pursuant to 10 CFR 50.63, the NRC requires that each NPP licensed to operate be able to withstand an SBO for a specified duration and recover from the SBO. NRC RG 1.155 gives licensees guidance on developing their approaches for complying with 10 CFR 50.63.

7. Procedures for identifying local power sources that could be made available to resupply your plant following a LOOP event.

Note: Section 2, "Offsite Power," of RG 1.155 (ADAMS Accession No. ML003740034) states:

Procedures should include the actions necessary to restore offsite power and use nearby power sources when offsite power is unavailable. As a minimum, the following potential causes for loss of offsite power should be considered:

- ***Grid undervoltage and collapse***
- ***Weather-induced power loss***
- ***Preferred power distribution system faults that could result in the loss of normal power to essential switchgear buses***

NRC Question 7(a):

(a) Briefly describe any agreement made with the TSO to identify local power sources that could be made available to resupply power to your plant following a LOOP event.

EN Response:

Response not for public disclosure.

NRC Question 7(b):

(b) Are your NPP operators trained and tested on identifying and using local power *sources to resupply your plant following a LOOP event? If so, describe how.*

EN Response:

There are no local offsite AC power sources and transmission lines of sufficient capacity that are under the direct control of EN. All offsite power sources and transmission lines are under the control of BPA. Therefore, there is no training of operators to identify local power sources to resupply the CGS following a LOOP event. However, operators are trained to coordinate with BPA to implement offsite power restoration. The alternate sources of the offsite power has been pre-established by BPA in the letter agreement as described in response to question 7(a) above. When BPA has restored the offsite power availability from one or more of these designated sources, the restoration is coordinated with BPA to resupply the plant. These actions are controlled by procedures and plant operators are trained in these procedures.

NRC Question 7(c):

(c) If you have not established an agreement with your plant's TSO to identify local power sources that could be made available to resupply power to your plant following a LOOP event, explain why you believe you comply with the provisions of 10 CFR 50.63, or describe what actions you intend to take to establish compliance.

EN Response:

Response not for public disclosure.

IV. Losses of offsite power caused by grid failures at a frequency of equal to or greater than once in 20 site-years in accordance with Table 4 of Regulatory Guide 1.155 for complying with 10 CFR 50.63

Pursuant to 10 CFR 50.63, the NRC requires that each NPP licensed to operate be able to withstand an SBO for a specified duration and recover from the SBO. NRC RG 1.155 gives licensees guidance on developing their approaches for complying with 10 CFR 50.63.

8. Maintaining SBO coping capabilities in accordance with 10 CFR 50.63.

NRC Question 8(a):

(a) Has your NPP experienced a total LOOP caused by grid failure since the plant's coping duration was initially determined under 10 CFR 50.63?

EN Response:

The CGS coping duration was determined using data in Table 8A-1 of the FSAR and the methodology provided in Chapter 3 of NUMARC 87-00 and submitted on the docket via letter G02-89-062 in April 1989. From the submittal in accordance with 10 CFR 50.63, CGS is designated as AC Power Design Characteristic group P1. Since this initial determination, CGS has not experienced a total LOOP caused by grid failure (grid centered LOOP).

As noted in the response to TI 2515/156, Section B. 10 CFR 50.63, Station Blackout (SBO), CGS has reported one plant centered LOOP which occurred during a refueling outage on May 14, 1989 (refer to LER 89-016).

NRC Question 8(b):

(b) If so, have you reevaluated the NPP using the guidance in Table 4 of RG 1.155 to determine if your NPP should be assigned to the P3 offsite power design characteristic group?

EN Response:

CGS has not experienced a total LOOP caused by grid failure (grid centered LOOP) and has not performed a re-evaluation using the guidance in Table 4 of RG 1.155 to determine if assignment to the P3 offsite power design characteristic group is appropriate.

NRC Question 8(c):

(c) If so, what were the results of this reevaluation, and did the initially determined coping duration for the NPP need to be adjusted?

EN Response:

CGS has not experienced a total LOOP caused by grid failure (grid centered LOOP) and has not performed a re-evaluation using the guidance in Table 4 of RG 1.155 to determine if assignment to the P3 offsite power design characteristic group is appropriate.

NRC Question 8(d):

(d) If your NPP has experienced a total LOOP caused by grid failure since the plant's coping duration was initially determined under 10 CFR 50.63 and has not been reevaluated using the guidance in Table 4 of RG 1.155, explain why you believe you comply with the provisions of 10 CFR 50.63 as stated above, or describe what actions you intend to take to ensure that the NPP maintains its SBO coping capabilities in accordance with 10 CFR 50.63.

EN Response:

CGS has not experienced a total LOOP caused by grid failure since the plant's coping duration was initially determined under 10 CFR 50.63 and has not performed a reevaluation using the guidance in Table 4 of RG 1.155. CGS's current licensing basis (CLB) for SBO capabilities remain in compliance with 10 CFR 50.63. Changes to CLB are controlled by procedures that require evaluation of the changes to determine if compliance with NRC regulations is affected. The CLB change process procedures also require one-over-one review and plant management approval. The robustness of this process ensures that the SBO coping capabilities are maintained in accordance with 10 CFR 50.63.

NRC Question 9:

9. If you determine that any action is warranted to bring your NPP into compliance with NRC regulatory requirements, including TSs, GDC 17, 10 CFR 50.65(a)(4), 10 CFR 50.63, 10 CFR 55.59 or 10 CFR 50.120, describe the schedule for implementing it.

EN Response:

EN has determined, that in consideration of GL 2006-02, compliance with NRC regulatory requirements, including TS, GDC 17, 10 CFR 50.65(a)(4), 10 CFR 50.63, 10 CFR 55.59 and 10 CFR 50.120 is maintained at CGS and no actions are warranted.