

**NRC Staff Resolution of Public Comments Received on the Proposed Generic Letter
on Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power**

Table 1: Key for Resolution of Comments		
Sources of Comments (ADAMS Accession No.)	Comment Designator	Remarks
Nuclear Energy Institute (NEI) (ML051710189)	N	
Progress Energy, Inc (ML051740216)	P	Progress Energy endorses the NEI comments.
Tennessee Valley Authority (ML051740196)	T	TVA endorses the NEI comments.
Strategic Teaming and Resource Sharing (STARS) (ML051740206)	S	STARS endorses the NEI comments.
Detroit Edison (ML051740218)	D	Detroit endorses the NEI and NRSRG comments.
Entergy Nuclear Northeast (ML051740203)	E	Entergy supports NEI position on this issue.
AmerGen (ML051740213)	A	AmerGen endorses the NEI comments.
Nuclear management Company (NMC) (ML051890020)	M	NMC endorses the NEI comments and NRSRG letter
BWR Owners' Group (ML051740198)	O	BWR Owners Group endorses the NEI comments.
Nuclear Regulatory Services Group (NRSRG) (ML051710193)	G	
Bonneville Power Administration (ML051710186)	B	
Oak Ridge National Laboratory (ML051260218)	R	
Kimball M. Strickland (ML051120223)		
State of New Jersey (ML051710183)		The State of New Jersey supports the issuance of this generic letter as written.

Table 2: Key for Classifying Comments	
Bin #	Description
1	Comments related to connecting the generic letter to compliance with GDC 17
2	Comments related to connecting the generic letter to compliance with 10 CFR 50.65
3	Comments related to connecting the generic letter to compliance with 10 CFR 50.63
4	Comments related to schedule
5	Legal, backfit determinations
6	Miscellaneous comments

Table 3: Resolution Matrix for Comments

Introduction to responses to public comments

The power blackout on August 14, 2003, raised questions about whether the Nation's electric grid was being operated in a safe and reliable manner. The use of the national power grid has significantly changed over the past years. As deregulation of the electric industry continues to develop, it raises the potential for a public health and safety issue related to the reliability of the grid and its impact on the safe operation of nuclear power plants (NPPs). An unreliable grid cannot ensure the availability of the offsite power system (preferred power supply, PPS), which is essential to the safe operation of NPPs. The electric power system for NPPs depends to a great extent on the reliability of the grid to ensure the availability of offsite power at the PPS. A decrease in the reliability of the grid may lead to unnecessary challenges to safety systems and dependence on onsite power systems such as diesel generators.

In the past, NPPs were connected to an electric power grid that was dominated by vertically integrated utilities that produced and transmitted electricity for local customer demand, and excess capacity on the transmission system was used to move power from low-cost to high-cost centers. The utilities owning NPPs also owned the transmission networks to which the NPPs were connected. Because each utility had franchise service territories little competition, and owned its transmission network, the utilities could control the reliability of the grid in the general vicinity of their NPPs.

Today some NPP licensees no longer own the transmission network to which their NPPs are connected, and the management of the power grid is most often in the hands of independent entities, called independent system operators (ISOs) or regional transmission operators (RTOs), that are responsible for dispatching, transmission, and generation of electricity, and maintaining reliability during both normal and abnormal grid operating conditions. In the past 4 years, significant increases have occurred in the transfer of large amounts of bulk power across the grid, particularly during peak hours. These changes have shifted the focus for maintaining grid reliability from a local area network, where the NPPs are located, to a large geographic region. The reliability of offsite power for NPPs supplying power to the grid in this environment now depends on reanalysis of grid stability on a wider scale to include the region controlled by the ISO/RTU.

In this new grid environment created by the sale of electricity in an open market, NPP owners must demonstrate that the loss of the largest single generator or transmission line in the grid would not result in the complete loss of preferred power to the plant—even when the largest single load is hundreds of miles from the NPP. To that end, NPP operators, in concert with ISOs/RTOs, must establish the operational requirements (including transmission line configurations) for the grid in order to ensure the availability of the preferred power supplies to the NPPs in the event of a loss of load in the grid.

As a result of electric industry restructuring and the consequent open access to the grid, use of the grid has significantly changed over recent years, and the grid is now operated in a manner that was not originally considered. The national consensus is that the grid is in serious need of modernization, but it will take several years to bring the grid into the 21st century. In addition, the threat environment in the wake of the terrorist attacks of September 11, 2001, suggests that the grid should be prepared for contingencies that were not previously considered.

The NPP operator and ISO/RTO must be vigilant to ensure that the grid pre-contingency conditions remain within the limits of the conditions for the post-contingency analysis. This is especially difficult because pre-contingency conditions that might be perfectly acceptable for all other users of the grid are often unacceptable for an NPP. Moreover, it is often not obvious that the conditions are unacceptable until after the contingency and the NPP trip.

Also, the NRC staff needs to be actively engaged with all of the groups involved in improving grid reliability in order to prevent future events like the power blackout on August 14, 2003, from challenging the safe operation of NPPs. The NRC staff needs to have information on (1) how NPP operators ensure the PPS is being operated in a manner consistent with the licensing basis of NPPs, (2) how the grid-risk-significant equipment is being operated and maintained at NPPs, and (3) how the underlying assumptions and criteria for the PPS and the station blackout rule are being maintained and validated in view of restructuring of the electricity generation and transmission industry. The purpose of this GL is to collect information on how the NPP operators are ensuring the availability of the offsite power to the NPP when the grid is being operated in ways not originally envisioned.

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Bin	Comment No.	Comment	Resolution
1	E-1 (Attachment 1, Comment 1)	<p>Several of the questions regarding compliance with GDC 17 are unclear. GDC 17 establishes design requirements in part to minimize the potential for a loss of an offsite power source as a result of a loss of plant generation (i.e., a plant trip). However, the questions refer to formal agreements, procedures, and communication protocols rather than to specific design attributes. For example, Question 1 of the draft Generic Letter (GL) states, "If you do not have a formal agreement with your TSO, please describe why you believe you comply with the provisions of GDC 17 as stated above..." A clear distinction between plant's design and licensing basis and programmatic operational controls should be maintained. Compliance with design criteria is already addressed in plant FSARs.</p>	<p>Not Incorporated - As a result of electric industry deregulation, the independent system operators (ISOs) and/or transmission system operators (TSOs) are now responsible for ensuring the overall reliability and stability of the electric grid at the regional level. To ensure the availability of offsite power to nuclear power plant (NPPs), NPP owners/operators should establish formal protocols with their regional ISOs/TSOs to identify the necessary regional and local operational requirements (set by Federal Energy Regulatory Commission (FERC), National Electric Reliability Council (NERC), etc.) to ensure the operability of the nuclear facility's preferred power supply (PPS) for a given set of contingencies.</p> <p>The agreements between a NPP licensee and its transmission operator determine the reliability of the grid and the basis for the availability of offsite power to the NPP. Licensees are required to comply with plant technical specifications (TS) that govern the operability of the offsite power system. If the design requirements of GDC 17 (or offsite power criteria documented in the USFAR) cannot be met (i.e., if post-trip switchyard voltages will be inadequate or offsite power will be unavailable post-trip), then the offsite power system may be inoperable. Plant technical specifications contain limiting conditions for operation that require the plant offsite power system to be operable. The TSOs (or their equivalent counterparts) normally run online contingency analyses to ensure that the grid will meet first contingency, that is, loss of critical transmission lines or generation. Therefore, it is important for NPP operators to have a communication interface with the transmission system operator, together with other local means to maintain</p>

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			an awareness of changes in the plant switchyard and offsite power grid, to determine the impact of these changes on operability of the offsite power system to NPPs. Therefore, Question 1 of the draft generic letter (GL) is seeking information on how licensees comply with the design requirements of GDC 17 and meet the technical specifications if no formal agreement exists between the licensee and its transmission operator.
1	E-5 (Attachment 1, Comment 5, paragraph 5)	The draft GL does not appear to be in agreement with GDC 17, by implying the off-site power circuits must be available immediately following a trip.	Not Incorporated - On page 5, the draft GL refers to the applicable regulatory requirements (GDC 17) and states: "It is therefore necessary that the offsite power circuits be designed to be available following a trip of the unit in order to permit functioning of SSCs necessary to respond to the event." In other words, the offsite power design must be capable of immediate support of SSCs following a reactor trip. GDC 17 requires that one of these circuits be available within a few seconds following a loss-of-coolant accident. The staff calls this circuit the "immediate access circuit." However, this does not mean that the GDC 17 requires that all of the circuits be available immediately. The draft GL merely refers to the regulatory requirements and design criteria applicable to each licensee's plant and does not imply a new interpretation of GDC 17.
1	G-1a (Comment 1, page 2, paragraph 2)	GDC is a design standard used in the development of the plant's electric power systems, but does not prescribe methods to operate and maintain the design (RG 1.93). GDC does not require that the NPP continually assess the conditions on the transmission system. Compliance with GDC 17, which was	Not Incorporated - The comments suggest that design and operating requirements are not related. While it is true that GDC do not prescribe operational limits, the NRC staff believes that the adequacy of any design, including the design of an offsite electric power supply, can only be determined by reference to the conditions under which the design will be operated. That is, whether a system meets its

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		<p>established prior to issuance of an operating license, should be assured unless the plant design is altered. Since the enhanced operating and maintenance practices suggested in the proposed GL are not related to a plant design, change, such practices should not be characterized as necessary for compliance with the design standard of GDC 17.</p>	<p>design criteria can only be determined by analyzing the system response under the most extreme operating conditions prescribed by the TSs in the license. Through the GL, the staff will seek to determine whether current plant offsite electric power supplies are designed and being operated in compliance with currently applicable requirements (whether embodied in GDC, plant-specific design criteria, or plant TSs) even though the current grid conditions were not anticipated in original licensing. This analysis can only be done on a plant-specific basis considering individual plant design and operating practices.</p> <p>The capacity and capability of the offsite power system may be significantly affected by electric industry restructuring and how the grid is being managed. It is important that licensees continue to ensure that the design bases for the reliability and stability of the offsite power sources do not degrade during the life of the plant. GDC 17 establishes the plant's electric power system requirements, including capacity and capability (operational requirements), to performing the system's intended function. Plant TS, in combination with GDC 17 (or its forerunner, Safety Criterion 39), will require plant operators to be aware of the offsite power needs of the plant, including minimum required switchyard voltages, and when these needs cannot be met. Therefore, plant operators should be aware of situations that can impact operability of offsite power. To ensure that the design basis of the plant continues to be maintained under current grid conditions and offsite power is available to the NPP, the staff believes that plant operators and the transmission system operator must communicate.</p>

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Bin	Comment No.	Comment	Resolution
1	M-2 (Enclosure, page 1, paragraphs 5 and 6)	<p>All of the NMC-operated plants were licensed prior to the formal publication of the GDC, (i.e., Appendix A to 10 CFR Part 50). As noted in SECY-92-223, all plants with Construction Permits issued prior to May 21, 1971, are not subject to these provisions and each licensee has its own licensing basis. To place all such plants into a single determination of "or equivalent" as stated in the GL is a gross over-simplification of the licensing basis of these plants.</p> <p>In addition, the GL blurs the design requirement for offsite circuits in GDC 17, with operational criteria for maintaining grid voltage/frequency. The Staff has expanded its interpretation of the following provision in GDC 17 to include use of Real Time Contingency Analysis (RTCA) software and protocols with Transmission System Operators (TSO).</p>	<p>Not Incorporated - Plants not licensed in accordance with GDC 17 were licensed to satisfy plant-specific principal design criteria (PDC) presented in the plant updated final safety analysis report. These criteria (such as AEC Safety Criterion 39, which required an offsite electric power system to be provided to power safety equipment necessary to respond to anticipated operational occurrences and postulated accidents) are similar to GDC17. The electric grid is the source of power to the offsite power system. Therefore, all operating plants have offsite power requirements similar to GDC 17. Each licensee should respond to the GL in the context of the requirements that apply to its NPP. As for the use of RCTA to monitor grid parameters, see staff's response to M-3 below.</p>

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1	M-3 (Enclosure, page 2, paragraph 1)	The use of real-time analysis, such as the RTCA model discussed in the proposed GL, and a deregulated energy market, where the owner/operator of the Nuclear Power Plants (NPP) is a separate entity from the owner/operator of the transmission network (i.e., TSO), were never contemplated at the time the GDC were drafted. To interpret the above language in GDC 17 to include these new concepts is an expansion of the original intent and should be treated as such.	Not Incorporated - Significant changes have occurred in the electric industry as a result of its restructuring and deregulation. Therefore the traditional type of transmission system load flow analysis may not suffice to predict the impact of power wheeling on the grid. Some transmission system operators use state estimators and contingency analyzers to periodically verify the condition of the transmission system. The NRC special inspection report No. 50-483/99-15 on the Callaway Plant stated that the traditional load flow analysis before the trip of August 11, 1999, did not anticipate the potential impact of economic deregulation and power wheeling and underestimated the system loading conditions. RTCA software (or a similar tool) for monitoring grid parameters is one way to predict that there will be adequate voltage following a unit trip. Licensees may use other tools that are similar to RTCA as long as the tools are able to reliably predict that an NPP will have adequate offsite power system under the current grid conditions. Changes in grid use as a result of industry restructuring, may warrant the use of enhanced tools to monitor the grid conditions.
1	N-G1* *General Comment (page 4, paragraph 5)	The NRC has not provided a sound basis to support the need for additional information to determine if regulatory compliance is being maintained.	Not Incorporated - Operating experience reveals that many NPPs may lack provisions adequate to ensure the operability of the offsite power system following a trip of the reactor and main generator. Information Notices 98-07 and 2000-06 cite numerous NPPs where the availability of offsite power was not assured. NRC inspections and licensee event reports have indicated that the changes as a result of restructuring of the electric utility industry affect the reliability of the offsite power systems at NPPs. For example, the August 2003 blackout caused grid voltages to collapse so that nine

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			<p>nuclear power plants tripped and had to rely on standby emergency diesel generators. In February 2000, the NRC inspection at the Callaway Plant (Inspection Report No. 50-483/99-15) found that the Callaway Plant did not have sufficient provisions in place or to ensure adequate post-trip voltages. The Callaway licensee stated that large flows coupled with high local demand and loss of the Callaway unit caused switchyard voltages to drop below the minimum requirements for 12 hours without being detected by the licensee.</p> <p>Industry restructuring has heightened the need for better communication between the NPP operator and the TSO and the need to update the analyses more frequently. Some NPP licensees are utilizing online contingency analysis software in their grid control centers and have implemented protocols to be notified when the offsite supply for their plant is in jeopardy of not providing the plant's minimum required capability. Some NPP licensees have also established provisions for updating the analyses more frequently when the online capability is not available. These licensees have implemented procedures to determine when the plant and grid conditions are outside the bounds of the assumptions of the analyses, and the information necessary for the licensee to take appropriate compensatory actions if any. The staff believes that similar arrangements are needed at all operating reactors to ensure the reliability of offsite power and consequently NPP safe operation.</p>

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1	N-1 (Enclosure, Comment 1, page 3)	The NRC request for information is related to formal agreements between the nuclear plant operator and transmission system operator are not necessary to determine compliance with GDC 17. Such agreements are not part of the plant licensing basis. WANO SOER 99-01 Addendum explicitly addresses the need to establish formal agreements between plant operators and transmission system operators. INPO evaluations assure that the recommendations contained in SOER are implemented.	Not Incorporated - The electrical grid today is made up of utilities and independent power producers. This results in multiple combinations of generating units going on and off the grid. The capacity and capability of the offsite power system for each nuclear power plant, as required by GDC 17, could be significantly affected by the decisions of multiple companies. Since the capability of offsite power cannot be tested except when challenged in an actual event, the design bases for the offsite power system can only be assured by analyzing grid and plant conditions. The NRC request for information on formal agreements is needed to assess operating agreements between nuclear plant operator and the TSOs related to minimum switchyard voltage and operator performance expectations between nuclear power plant operator and TSO. The staff does not intend for the GL to establish any standards or requirements with respect to such agreements.
1	N-2 (Enclosure, Comment 2, page 4)	Compliance with the design requirements of GDC 17 should be based on the tools utilized during the licensing of the plant and which provide for the bounding design bases of the GDC 17 offsite sources. The RTCA program is not part of the plant licensing basis. The RTCA program is beyond the control of the nuclear plant operator and should not in and of itself be a basis for offsite source operability. The nuclear plant must rely on the transmission system operator to maintain the reliability of the grid utilizing available tools. This may or may not include a RTCA program. The operability of the offsite sources should be based on the	Not Incorporated - As described in the responses to Comments G-1a and N-1, conditions on the grid have changed since plants were initially licensed. The electric power industry has been deregulated, at least partly, and industry restructuring could adversely affect the reliability of the offsite power system. Licensee event reports (LERs) have shown that grid stability analyses have not been updated to reflect the changes in the grid power system. Also, because of industry restructuring, the effects of demand-supply imbalance, post-trip voltage adequacy, and reserve margins on grid availability may no longer be bounded by the analysis used during initial licensing of the plant. Continuing to ignore potential changes in the reliability and electrical characteristics of the grid due to

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		transmission system operator's evaluation of the current grid conditions and not solely on a single tool available to the system operator.	power market conditions could result in a failure of the offsite power sources to have the capacity and capability required by GDC 17. The commenter is correct that RTCA is but one tool available to the grid system operator to continually assess grid reliability and the functionality of the offsite power system. Nonetheless, licensees must continue to ensure that the design bases for the reliability and stability requirements for the offsite power sources do not degrade during the life of the plant. Forward-looking entities are using improved tools such as RTCA software for analyzing grid reliability and stability to manage the grid. The capacity and capability of the offsite power system (assuming onsite power is not available) are important factors in ensuring that the system safety function can be accomplished as required by the respective plant specific requirements (GDCs or PDCs). The GL does not require use of the RTCA per se. The RTCA is used by the TSO to determine whether the grid is being operated in a manner that assures that specified contingencies are being met, thus ensuring the availability of the offsite power system to NPPs that is required by GDC 17 and TS. (See page 10, item 3 of GL.)

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1	N-3 (Enclosure, Comment 3, page 5)	One of the questions states, "If onsite safety-related equipment (e.g., emergency diesel generators or safety-related motors) are lost and incapable of performing their required safety functions as a result of responding to an emergency actuation signal during this condition, are they declared inoperable as well?"	<p>Fully Incorporated - The staff will clarify this question. In the GL, this question is being asked in the context of delayed LOOP and double sequencing of safety loads. The staff is seeking information on NPP designs in which the emergency diesel generator (onsite power source) may not be capable of starting and supplying the safety loads sequenced onto the safety buses in response to an emergency actuation signal after a delayed LOOP. This scenario can occur if the plant post-trip voltages are known to be degraded and are below the TS minimum limits. This would actuate the plant degraded voltage protection scheme upon a unit trip with safety loads being sequenced onto the safety buses. In a delayed LOOP, the emergency diesel generator will attempt to supply the loads without stripping the accident loads. These loads, in turn, may not be designed to trip on an undervoltage condition (undervoltage relays generally trip loads which are normally running), causing the diesel generator to overload and eventual trip. Also, safety load breakers have a lockout (antipump) feature. If actuated, this feature may lock out these breakers, making them incapable of performing their safety function. The staff is seeking information on whether the operators of NPPs with known deficiencies in the design of their plants declare the affected equipment inoperable during degraded conditions on the offsite power system and if not, why not.</p> <p>(See page 10 for an explanation of when the onsite safety-related equipment could be lost and incapable of performing its required safety functions.)</p>

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1	N-4 (Enclosure, Comment 4, page 5)	The nuclear power plant operator cannot ensure that the offsite power system is operable without direct information and support from the transmission system operator. Contingency analyses maintained by the transmission system operator determine the impact of a nuclear plant trip on the offsite power system.	Not Incorporated - The staff agrees that information and support from the TSO is necessary to assess whether the offsite power system is operable or not. A communication protocol between the TSO is essential to maintain an awareness of changes in the NPP's switchyard and offsite power grid and to determine the impact of these changes on operability of the offsite power system. Licensees should ensure that offsite power is operable during normal plant operation and for anticipated operational occurrences and postulated accidents. Licensees should also be aware of the impact of a plant trip on the availability of offsite power and the adequacy of post-trip switchyard voltages. Plant operators should therefore be aware of the offsite power needs of the plant, including minimum required switchyard voltages, and they must know when these needs cannot be met. The cooperation of the TSO may have to be enlisted through an appropriate communication protocol to ensure that offsite power will be available and switchyard voltages will be adequate following a trip of the plant. Furthermore, contingency analysis done by the TSOs will show whether the switchyard will have adequate voltage after the trip of the NPP, loss of the critical transmission line, or the loss of the largest generating unit.

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1	P-1 (Comment 1, page 1)	<p>The second and third paragraph [of the draft generic letter] imply that use of the Real Time contingency Analysis (RTCA) is required for compliance to GDC 17. Please revise this section to clarify that RTCA or Analytical Transmission System Studies or both or other means of predicting post trip NPP switchyard voltage support are acceptable methods of minimizing the probability of the loss of power from the transmission network given a loss of power generated by the nuclear power unit. We recommend that the request for information regarding the RTCA and/or Analytical Transmission System Studies be preceded by wording similar to that implied in the fourth paragraph. For example, the addition of wording similar to the following sentence at the end of paragraph 1 “ Predictive methods such as Real Time Contingency Analysis, Analytical Transmission System Studies, or other means used should be described.”</p>	<p>Partially Incorporated - There is no NRC requirement to use RTCA. The staff merely seeks to understand how licensees comply with TSs and GDC 17 with respect to offsite power. The staff considers the RTCA software program a state-of-art tool that most transmission operators serving NPPs now have or will soon have for analyzing grid conditions. The staff agrees with the commenter that online Analytical Transmission System Studies computer capability for analyzing the grid probably will provide similar information in a similar time frame. A licensee may also have other means at its disposal to ensure compliance. The staff will therefore clarify the GL. (The revised text appears on GL page 1.)</p>

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1	S-2 (Enclosure, Comment 2, page 1)	<p>During the licensing process of a nuclear power plant (NPP), the NPP applicant and the transmission system operator were generally the same entity. The NRC required the NPP applicant to perform stability studies of the transmission grid to demonstrate compliance to GDC 17 requirements. In addition, Draft Revision 3 of Branch Technical Position ICSB-1 1, "Stability of Offsite Power Systems," dated April 1996, has concluded that power systems, with supporting grid inter-ties, meet the grid availability criteria with sufficient margin. This position also recognized that an isolated system large enough to justify inclusion of a nuclear unit will also meet these criteria. In the deregulated environment, the NPP licensee may not be the same entity as the transmission system operator. The operators and operation of the transmission network are governed by the rules and regulations of NERC and other regulatory and governmental agencies. The requirements for grid reliability should be established through the appropriate agencies to ensure the adequacy of NPP offsite power. The necessary steps to minimize the probability of the loss of power from the transmission network, given a loss of power generated by the nuclear power unit, should be under-taken by the transmission provider, who is not be under the jurisdiction of the NRC.</p>	<p>Not Incorporated - The NRC agrees that grid reliability should be established by the appropriate agencies (not the NRC) to ensure the availability and adequacy of offsite power for NPPs. The NRC has not promulgated any requirements for grid stability and is not doing so through the GL. The TSOs normally run online contingency analyses to ensure that the grid is operated in a way that would meet first contingency, that is loss of critical transmission lines or generation. As stated in the staff response to Comment E-1 above, a communication protocol between the NPP and the plant's transmission system operator will maintain an awareness of changes in the plant switchyard and offsite power grid to minimize the probability of losing power from the transmission network after a loss of critical transmission line or the power generated by the nuclear power unit. This is not the same thing as establishing requirements for grid reliability.</p>
1	S-8 (Enclosure,	<p>Offsite power supply operability determinations should not be based on "contingencies" defined</p>	<p>Not Incorporated - The NRC does not require the use of an RTCA program to determine the operability of offsite power</p>

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	<p>Comment 8, page 3)</p>	<p>by the real time contingency analysis programs or models. "Contingencies" define hypothetical situations that may or may not occur. Operability of a structure, system, or component is determined on actual plant/SSC conditions, not on hypothetical "what if" situations that may or may not occur. The RTCA program is not required by the Technical Specifications, nor is it required to ensure offsite power source operability since it has no impact on offsite power supply availability, reliability, or functions. In fact, the RCTA program would neither prevent the degraded state from occurring, nor would it initiate remedial actions should the degraded state occur. Requiring an RTCA program to assist in determining if an offsite power supply is OPERABLE represents a new license requirement that is beyond the existing licensing basis and Technical Specification requirements for NPP.</p>	<p>systems. Further, the draft GL is not intended to set forth such a requirement, and the staff does not believe that the draft GL implies that a licensee must use an RTCA program. Nonetheless, the capability and operability of the offsite power cannot be tested except when challenged in an actual event. Therefore, the design bases for the offsite power can only be assured by considering actual and anticipated grid and plant conditions. The contingency analyses done when the plant was licensed may not bound the ever-changing conditions of the grid today as a result of electric industry restructuring. An RTCA is being used today to assess operating conditions and impending conditions on the grid. TSOs often use an RTCA program to continually manage the grid. Obtaining the RTCA program information from their TSOs will help NPP operators in assessing whether the offsite power system is operable. The plant technical specifications require the offsite power system to be operable as a limiting condition for operation. Therefore NPP operators should be aware of the capability of the offsite power system to supply power and conditions that can result in a loss of offsite power after a plant trip. An RTCA program gives the TSO information for determining if an offsite power system to a NPP is operable. Since the offsite power system cannot be tested, the staff believes that it is important that the NPP operator know when the trip of the plant will result in the loss of offsite power to the plant, and the use of RTCA and/or an online analytical transmission system studies program can provide this information. Further, all safety transient and operational design basis analyses are based on hypothetical situations (e.g., the double-ended guillotine pipe break). Though TSs only apply to systems as they are, the TS by themselves are</p>

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			<p>based on analyses of hypothetical events. Therefore, licensees should be aware of developing conditions that may render TS equipment inoperable.</p> <p>See staff response to N-1 and 2 and M-3 of Bin 1.</p>
1	S-11 (Enclosure, Comment 11, page 4)	The draft generic letter incorrectly alludes to operating agreements and transmission protocols as design basis requirements or license conditions. Regulatory Guide 1.93, "Availability of Electric Power Sources," states: "GDC-17 specifies design requirements, not operating requirements; it therefore does not stipulate operational restrictions based on the loss of power sources." Contrary to this concept, the draft Generic Letter implies that "formal agreements" between the NPP and the grid operator are essential to assure compliance with GDC-I 7. Such formal agreements, if used, are not part of the design of the plant, but represent operating agreements between two or more parties to ensure a mutual benefit to each party.	<p>Not Incorporated - The commenter has taken the sentence "GDC-17 specifies design requirements, not operating requirements" out of context. As explained in the response to comment G-1a, the adequacy of design cannot be evaluated in the absence of operational restrictions. The operational restrictions for the design requirements of GDC 17 for the loss of offsite power sources are embodied in the technical specifications. Therefore, an NPP's ability to comply with technical specifications for offsite power could depend on grid conditions and NPP status. Communications should help maintain the NPP operator's awareness of the effects of changes in the plant switchyard voltage and/or the offsite power grid on the operability of the offsite power system. The staff believes that communications between the NPP and its transmission system operator are important in assessing whether the offsite power sources are capable and operable as required by GDC 17 and technical specifications.</p> <p>See the staff response to comment G-1a of Bin 1.</p>
1	Strickland (page 2, paragraph 1)	In the Requested Information section of the GL, please clarify how plants that are not licensed to nor required to meet the provisions of GDC 17 should address design criteria that do not apply to their facility.	Not incorporated - See the staff response to comment M -2 of Bin 1.

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Bin	Comment No.	Comment	Resolution
2	G-1c (Comment 1, page 3, paragraph 2)	10 CFR 50.65(a)(4) does not direct that the NPP conduct a grid reliability evaluation prior to performing maintenance on risk-significant equipment.	Not Incorporated -The risk of grid-risk-sensitive maintenance activities (activities that could (1) increase the probability of a plant trip, (2) increase the probability of LOOP, or (3) impact the ability to cope with LOOP or SBO) is elevated during existing or imminent degraded offsite power as a result of impaired grid reliability. To perform an adequate maintenance risk assessment that includes grid-risk-sensitive maintenance activities, pursuant to 10 CFR 50.65(a)(4) the licensee should consider, along with other relevant external events and conditions, either qualitatively or quantitatively, the status and projected reliability of the local grid for the planned grid-risk-significant maintenance period.
2	M-5 (Enclosure, page 2, paragraph 4)	Whereas it may be true that an RTCA monitor and formal protocols could provide insights into the likelihood of grid-related events and their associated risk, NMC does not believe that Maintenance Rule compliance requires such a monitor or protocols and that the existing process for evaluating and managing risk in this area is acceptable.	Partially Incorporated - The staff agrees that the Maintenance Rule does not require RTCA software or formal protocols. See the responses to S-3 and S-5 of Bin 2 below. Nonetheless, the staff needs this information to help in determining whether existing processes for assessing and managing the risk of grid-risk-sensitive maintenance activities are acceptable, especially for existing or threatened conditions of degraded grid reliability. The questions have been revised to clarify this as discussed above. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13.)

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
2	N-5 (Enclosure, Comment 5, page 5)	One of the questions asks, "Are seasonal variations in the probability of a LOOP at your plant site considered in the evaluation?" We recommend this question be removed. The risk assessment required by 10 CFR 50.65 is typically performed both quantitatively and qualitatively by licensees. This is consistent with guidance endorsed by the NRC that allows for a combination of qualitative and quantitative assessment of risk. Licensee probabilistic risk assessments typically do not contain a seasonal variation in LOOP probability. As a result, licensees typically assess any factors that could immediately affect grid reliability in a qualitative manner, e.g., pending severe weather.	Partially Incorporated - The staff agrees that the important thing is that the licensee be aware of and address existing or imminent degraded grid reliability. The staff has revised the questions about this factor to avoid any implication that 10 CFR 50.65(a)(4) requires consideration of seasonal variations in LOOP frequency. However, the staff needs information on seasonal variations in LOOP frequency and whether they are considered in risk assessments by licensees. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13).
2	N-6 (Enclosure, Comment 6, page 5)	Coordination between the transmission system operator and plant owner/operator is an area for improvement. This is explicitly addressed in WANO SOER Addendum discussed earlier.	Fully incorporated - The staff agrees with this comment. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13.)

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
2	P-3 (Comment 3, page 3)	The third paragraph of the request for information implies that “consideration of seasonal variations in the Loss of Offsite Power (LOOP) probability” is required for compliance with 10 CFR 50.65(a)(4) (Maintenance Rule). Various factors affect the probability of LOOP with variations in transmission system loading being only one of many. Please revise this section to recognize that the probability of LOOP used for risk assessment should vary based on “considerations such as line maintenance activities, severe weather, and variations of transmission system loading (grid stress).” ----- - Considerations of “seasonal” variations should therefore not be implicitly mandated.	Fully Incorporated - The staff agrees that multiple factors affect grid reliability and consequently LOOP frequency. The staff needs to determine whether seasonal variations are a significant factor and to what extent they may be considered. The language of the GL has been revised to recognize multiple grid reliability factors, including the factors cited by the commenter, and the question has been clarified as discussed in the responses above. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13.)

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
2	S-3 (Enclosure, Comment 3, page 1)	The draft generic letter would seem to imply that the existing methods of ensuring grid reliability, which are based on periodic contingency analyses and agreements, contracts, and protocols, are ineffective in assuring grid reliability or compliance with NRC regulations, including 10 CFR 50.65, the Maintenance Rule. The existing methods have generally proven to be effective for ensuring grid reliability and demonstrating compliance with the applicable regulations. Imposing new staff positions, i.e., the requirement for an RTCA program and increasing the scope of the Maintenance Rule, is inappropriate, particularly in light of the fact that the NRC may be stepping outside of their regulatory jurisdiction as it relates to ensuring grid reliability.	Partially Incorporated - The draft GL did not state that the NRC staff believes the existing arrangements to be inadequate, nor did it impose any new requirements. The staff clarified the language to avoid the implication that compliance with 10 CFR 50.65(a)(4) cannot be achieved without RTCAs, consideration of seasonal variations in LOOP frequency, formal agreements with TSOs, etc.. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13.) Regarding the comment on RTCA, see staff's response to Comments N-1, N -2, M-3, and S-8 of Bin 1, and S-4of Bin 5.

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
2	S-5 (Enclosure, Comment 5, page 2)	The draft generic letter provides an expanded interpretation of the application of the Maintenance Rule, 10 CFR 50.65, which represents an increase in scope beyond current NRC and industry- accepted practice. The draft generic letter implies that for grid reliability evaluations, 10 CFR 50.65 requires application of an RTCA program, and that plants should have such models/monitors in place as part of their Maintenance Rule compliance scheme. The Maintenance Rule provides for the use of qualitative analysis, and does not require quantitative real-time analysis. Therefore, this apparent increase in scope of application of the Maintenance Rule is inappropriate, as is the requirement to have an RTCA program.	Partially Incorporated - See the response to Comment S-3. The draft GL has been revised to clarify the staff's position on qualitative and quantitative risk assessments pursuant to 10 CFR 50.65(a)(4), the need to consider grid and offsite power reliability when warranted, and the need for the TSO to communicate with the NPP operator about grid reliability evaluations. The staff needs information on RTCA availability and use, seasonal variations in LOOP frequency, and formal TSO protocols. The language in the GL has been clarified to avoid the mistaken inference that particular communication protocols or arrangements are required. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13.)

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
2	T - G1* * General Comment (page 2)	<p>We agree with NEI's objection to the implication that a seasonal period of increased offsite power risk should be defined based on historical grid conditions, and that such parameter should influence the scheduling of sensitive maintenance activities. Historical data is too sparse to support such an action. Periods of increased system stress and offsite power risk may have had some seasonal correlation in the past when the power system was operated in a coordinated and cohesive manner by integrated utilities. However, this is no longer the case. Under deregulation the generation schedules are independently determined and transfer patterns no longer follow predictable seasonal trends. Offsite power adequacy and risk factors are continually evaluated by the Transmission Supply Operator (TSO) through the assessments of actual and expected grid conditions, and the nuclear generating stations are informed of periods of increased risk. Perceived regulatory pressure to identify and avoid certain time windows, based on historical experience, could cause important maintenance activities to be rescheduled or delayed unnecessarily.</p>	Partially Incorporated - See the responses to N-5 and P-3 of Bin 2 above. (The revised text appears on GL pages 4, 6, 7, 11, 12, and 13.)

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
3	E-6 (Attachment 1, Comment 6, paragraph 3)	<p>The definition of LOOP is inconsistent. Some events, such as the August, 2003, blackout clearly caused a risk-significant LOOP event at a number of plants in the Northeast. Other events, that could potentially be classified as LOOP events using some definitions, do not meet the NUREG-1022 definition of a LOOP, for example, as the emergency buses can remain energized even if off- site circuits are denenergized. A LOOP that occurs for a few seconds while a plant has been shut down for some time, probably has little risk significance. The need to count these types of events in determining SBO risk should be evaluated on a case by case basis. Additionally, plants are expected to classify their expected LOOP frequency going forward. Using the historical LOOP frequency may not accurately characterize the future LOOP frequency due to implementation of various lessons learned from past LOOP events. Ensuring that the power grid is more robustly protected against failures that could result in LOOP events may be one of the acceptable means of ensuring compliance with Regulatory Guide 1.155.</p>	<p>Not Incorporated - The loss-of-offsite power (LOOP) frequency due to grid-related events was used in developing the Station Blackout Rule (10 CFR 50.63), as discussed in Appendix A of NUREG-1032 and RG 1.155. Grid related LOOPS are also discussed in NUMARC-8700, Section 3.2.1, Part 1A. According to these documents, there is no inconsistency in the definition of total LOOP frequency used for station blackout coping determinations. One of the underlying assumptions in determining the offsite power design characteristic group of an NPP was a total loss of offsite power caused by grid failures having a frequency of \$20 years, as given in Table 4 of RG 1.155. The assumptions used in meeting 10 CFR 50.63 must remain valid for the life of the NPP. Licensees are therefore expected to reevaluate LOOP assumptions for their plants using Table 4 of RG 1.155 to determine if the specified coping duration initially determined should be adjusted based on the current LOOP data.</p>

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
3	G-1b (Comment 1, page 2, paragraph 5)	Compliance with 10 CFR 50.63 is demonstrated by the current design and operational procedures, which would rely upon the plant alternate AC and DC power sources to achieve and maintain a safe shutdown condition based on plant-specific analysis, in accordance with RG1.155. Even assuming the August 14, 2003, blackout were to call into question the assumption used to establish SBO coping categories, it should not have any impact on the method of compliance with the SBO rule for plants relying on alternate AC sources since those plants are required to cope with an SBO only until alternate AC source becomes available.	Not Incorporated - The staff disagrees with the statement that NPP coping categories should not have any impact on the method of compliance with the SBO rule for plants relying on alternate AC (AAC) sources. The commenter is assuming that NPPs that credit an AAC source use it to power all of the equipment needed to cope with an SBO. However, this is not the case for many NPPs that credit an AAC source for coping with an SBO. Various NPPs have used AAC sources that vary from being minimally capable to fully capable. An NPP using a minimally capable AAC source is relying on equipment and systems that are not supported by the AAC power source i.e., relying on both AC and DC power. If the specified coping duration is increased for an NPP that relies on both AC and DC power for coping from 4 hours to 8 or 16 hours as a result of a grid-related LOOP, then the plant-specific analysis approved for complying with 10 CFR 50.63 for such a plant may no longer be valid. The staff expects licensees to reevaluate their NPPs' specified coping duration and the accompanying coping analysis using the RG 1.155 or NUMARC-8700 if the underlying assumptions change during the life of the NPP.

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
3	M-6 (Enclosure, page 3, paragraph 1)	<p>The mere fact that a given NPP has a grid-centered LOOP does not automatically mean that their probability is now greater than once in 20 years, as implied by the proposed GL, and that they should re-evaluate their previous categorization. Otherwise, both RG 1 .155 and NUMARC 87-00 would have posed the question as "Has your plant ever experienced a grid-centered LOOP of greater than 5 minutes duration? If so, the plant is category P3." This is not what was done and is not what Table 4 of RG 1 .1 55 means.</p> <p>If the Staff believes that NUREG-1032 is no longer valid and NUMARC 87-00 is not an acceptable method for determining coping periods for 10 CFR 50.63 compliance, then the Staff needs to finalize the currently drafted NUREG/CRs on LOOP probability and SBO risk, update RG 1 .155 accordingly, prior to issuing the proposed GL.</p>	<p>Not Incorporated - Table 4 of RG 1.155 states that plants are category P3 if the sites expect to experience a total loss of offsite power caused by grid failures at a frequency equal to or greater than once in 20 site-years. RG 1.155 criterion envelopes both plants that have experienced a grid-centered LOOP in the last 20 years and plants that can expect to incur loss of offsite power based on prior experience of grid-related failures. The RG 1.155 is very clear in this regard, stating that plants should be classified as P3 sites if the expected frequency of total loss of offsite power due to grid-related events is equal to or greater than once in 20 years. Therefore, the staff expects licensees to reevaluate their NPPs' specified coping duration and the accompanying coping analysis if the underlying assumptions change during the life of the NPP.</p> <p>See staff response to Comments E-6, S-15 and G-1b regarding the grid related LOOPS.</p>

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
3	N-7 (Enclosure, Comment 7, page 6)	<p>In response to the third paragraph of item 7 of the proposed GL, NEI states the following: Such agreements are not part of the plant licensing basis and as such are not required for compliance with 50.63. Typical power restoration agreements with transmission system operators do not provide specific resupply sources and paths, as these will vary greatly depending on the nature of the event. The transmission system operators restoration procedures should clearly identify the importance of and give priority to the restoration of an offsite power source to each affected NPP; however, as stated above, the restoration method will be dependent on the nature of the grid disturbance.</p>	<p>Not Incorporated - All NPPs are required to comply with 10 CFR 50.63, "Loss of all alternating current power." Therefore it is part of the plant licensing basis. All NPPs used NUMARC-8700 and Regulatory Guide (RG) 1.155 for complying with 10 CFR 50.63. RG 1.155, Section 2.0, "Offsite Power," states that procedures should include actions necessary to restore offsite power and the use of nearby power sources such as hydro generators, "black start" fossil power plants, onsite gas turbine generators, and portable generators. NUMARC-8700 Section 4.2. 2, "AC Power Restoration," provides guidance for operations and load dispatcher personnel on the proper course of action for restoring AC power in an SBO. In NUMARC-8700 Section 4.2.2 the guidance refers to planned actions and identification of required equipment to restore AC power to the blacked out unit. Similarly, NUMARC-8700 Section 4.3.2, "AC Power Restoration Guidelines," provides supplemental information for the restoration procedure guidelines in Section 4.2.2. Thus, current guidance calls for procedures that identify power sources and transmission paths to restore offsite power in the event of an SBO.</p> <p>The "load dispatchers," a term used in NUMARC-8700 is equivalent to the TSO in the restructured electric grid. The question in the proposed GL seeks information on whether the affected NPP has established restoration procedures and coordinated with the TSO (or load dispatcher) in restoring power.</p>

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
3	N-8 (Enclosure, Comment 8, page 6)	In response to the second paragraph of item 8 of the proposed GL, NEI states the following: The projected LOOP frequency for a plant is a statistical measure. Occurrence of a single LOOP does not necessarily invalidate the assumed frequency of a LOOP. Categorization of grid disturbances and their causes are the subject of continuing discussion between the industry and NRC. Consistency in the treatment of these events must be achieved before such information is requested from licensees.	Not Incorporated - See the staff response to Comments E-6, S-15, and G-1b on grid-related LOOPS. All NPPs have an approved specified coping duration and an accompanying coping analysis based on a given LOOP frequency. The staff expects each licensee to reevaluate its NPP's specified coping duration and the accompanying coping analysis if the underlying assumptions change.
3	P-4 (Comment 3, page 3)	The wording used in the request for information "grid-related total loss of offsite power" and grid-related total LOOP is not consistent with Regulatory Guide 1.155 table 4, which used the words "total loss of offsite power caused by grid failures." Please revise the GL wording to be the same as that used in the Regulatory Guide.	Fully Incorporated - The staff will revise the wording in the GL to be consistent with the wording in RG 1.155. (The revised text appears on GL pages 8 and 14.)

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
3	S-13 (Comment 13, page 4)	<p>The draft generic letter appears to include the Station Blackout (SBO) event in the overall grid reliability issue. This action is creating a subtle shift in the definition of "loss of offsite power" (LOOP) relative to SBO. As a design basis event, a LOOP can have numerous unpredictable initiators, such as natural events, potential adversaries, human error, or design problems. The SBO event is limited to "grid related" LOOP events that are directly related to insufficient generating capacity, excessive system load, or dynamic instability, as described in Regulatory Guide 1.155, "Station Blackout." It should be clarified that LOOP events resulting from weather, fire, other external events, or random grid events that are not symptomatic of underlying or growing instability, do not need to be considered for the SBO event.</p>	<p>Not Incorporated - The proposed GL is requesting licensees to review information on total loss of offsite power caused by grid failures experienced by NPPs since the implementation of the SBO rule. If the original assumption used for the LOOP frequency for this event has changed then it is expected that the specified coping duration and accompanying analysis should be adjusted to comply with 10 CFR 50.63.</p> <p>The GL requests information on the frequency of total loss of offsite power due to grid-related events rather than other initiators (such as weather, fire, and other external events), for the 20 years with respect to an SBO, as the commenter implied.</p>

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
3	S-15 (Comment 15, page 4)	Several references are made throughout the draft generic letter to Regulatory Guide 1.155, "Station Blackout." These references imply that compliance with this regulatory guide is the only acceptable method for meeting the stated criterion or objective. Regulatory guides provide a means that is acceptable to the NRC staff for satisfying the requirements of the topic under consideration, but they do not provide the sole means for achieving compliance. Therefore, clarification should be provided to indicate that compliance may be achieved by complying with the information provided in the regulatory guide, or by the method approved in the plant-specific licensing basis.	Not Incorporated - As stated in Section A of RG 1.155, this guide describes a method acceptable to the NRC staff for complying with 10 CFR 50.63. Section C of RG 1.155 also states that NUMARC 8700 provides guidance acceptable to the staff for meeting these requirements. RG 1.155 and NUMARC-8700 were developed concurrently, and NUMARC-8700 provides guidance on conformance with Section 50.63 that is in large part identical to the guidance in RG 1.155. Based on the information available to the staff, all NPPs used NUMARC-8700 and RG 1.155 for complying with 10 CFR 50.63. Nonetheless, a licensee may choose a different method for complying with 10 CFR 50.63 in view of new information such as the information that prompted the NRC to issue this GL.
4	E-3 (Attachment 1, Comment 3)	The time to respond to the GL should be changed to 120 days.	Not Incorporated - The staff believes that 60 days is long enough for the licensee to respond to the information requested in the GL. Further, the GL allows requests for extensions for good cause. Therefore, the GL need not be modified in response to this comment.

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
5	G-4 (Comment 1, page 3, paragraph 5)	It is not the purpose of the GL to impose new regulatory positions and expectations on licensees by presuming that licensees are in noncompliance with existing regulatory requirements as a result of an emerging issue. Such a presumption of noncompliance expressed via a GL illegitimately shifts the burden of compliance onto licensees when an emerging issue arises that was not specifically addressed in current regulations and the existing plant licensing bases. If the NRC does proceed with the issuance of the proposed GL, we believe it should be treated as a backfit under 10 CFR 50.109.	See the staff response to Comment S-4 of Bin 5.
5	M-8 (Enclosure, page 3, paragraph 6, and page 4, paragraphs 1, 2, & 3)	<p>The draft GL proposes some new ideas for dealing with grid stability issues in a deregulated energy market. These new ideas are portrayed in the GL as compliance with existing regulations and TS. The use of RCTA software and other suggested operational protocols with TSO were never contemplated when these regulations were originally drafted and used to license current plants. To characterize these new ideas as "compliance" with the current regulations and TS is not valid.</p> <p>Absent an identified problem, the Staff cannot state that the actions requested in the proposed GL are required to ensure compliance with the existing regulations and are not subject to the requirements of 10 CFR 50.109(a)(3).</p>	See the staff response to Comment S-4 of Bin 5.

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
5	N - G2* * General Comment (page 5, paragraph 3)	“-----These protocols and analysis programs are not part of the plant licensing basis; therefore, it is inappropriate to request such information under the provisions of 50.54(f).“	<p>Not Incorporated - The staff is seeking information to determine whether offsite electric power supplies are designed and being operated in compliance with currently applicable requirements in view of how grid is being managed and operated today, how grid-risk-significant equipment is being operated and maintained, and how the underlying assumptions and criteria for SBO rule are being maintained and validated in view of power industry restructuring.</p> <p>The TSOs are now responsible for ensuring the overall reliability and stability of the electric grid at the regional level. NPP licensees may therefore have to establish agreements with their regional TSOs to identify the operating measures (both regional and local) necessary to ensure the operability of the nuclear facility’s preferred power supply for a given set of contingencies. The grid stability analysis for each nuclear facility should be based on the correct implementation of these operating measures for the grid. As explained in the introduction to these comment responses, the TSOs now control the grid in the general vicinity of NPPs, rather than the vertically integrated utilities that originally obtained the NPP licenses. Utility/licensee control of the grid was originally part of the licensing bases, and TSO analysis and communication protocols continue to be part of the licensing basis for the facility. The power system operator should also ensure that pre-contingency conditions remain within the limits determined by the post-contingency analysis. Such an evaluation can only be done on a plant-specific basis, considering the individual plant design and operating practices.</p>

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
5	S-4 (Comment 4, page 2)	<p>The apparent staff position that an NPP should have a RTCA program to minimize the probability of the loss of power from the transmission network represents a new staff position, beyond those described in NRC Branch Technical Position ICSB- 11. This new position should be addressed through rulemaking or as a backfit that has been appropriately evaluated in accordance with the appropriate regulations. In addition, requiring transmission system operators to provide this information to licensees would appear to go beyond the regulatory authority of the NRC.</p>	<p>Not Incorporated - The GL suggests that licensees can use an RTCA program to ensure compliance with various requirements, but the NRC staff has not yet taken a position on whether licensees should do so. If the staff determines that the use of an RTCA is a preferred method for meeting certain requirements, the staff will revise the applicable regulation or otherwise inform licensees of the determination. The GL does not set forth such a staff position. The GL merely asks whether and how licensees obtain and use RTCA program information, with respect to compliance with applicable regulatory requirements (plant TSs in conjunction with 10 CFR Part 50, Appendix A, General Design Criteria 17, 10 CFR 50.65(a)(4), and 10 CFR 50.63) and whether these requirements are being met in regard to the grid topics addressed in the GL. The GL does not involve or propose any backfit or rulemaking.</p> <p>The GL is not directed to transmission system operators, nor does it suggest that the NRC is considering a requirement that TSOs provide information to licensees. If the NRC determines that such a requirement is needed to ensure compliance with NRC requirements or to assure adequate protection of public health and safety or the common defense and security, the NRC will impose the requirement through a rule or orders. The NRC will consider any backfit issues in issuing such a rule or orders. The NRC staff is not now suggesting that the Commission impose requirements on TSOs. However, in Order 2004, "Standard of Conduct," dated November 25, 2003, and Order 2004-A, "Standards of Conduct for Transmission Providers, Final Rule; Order of Rehearing," dated April 16, 2004, FERC has consistently interpreted 18 CFR 358.5(b)(8) as an exemption that permits</p>

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
			a nuclear power plant operator and a grid operator to share crucial operating information for ensuring the reliability of offsite power to NPPs.
6	A (page 1, paragraph 3)	Based on the recent nuclear industry initiatives to improve the nuclear plant interface with transmission organizations (TOs), Exelon and AmerGen do not believe the issuance of this proposed GL is required.	Not Incorporated - The staff encourages nuclear industry initiatives to improve the nuclear plant interface with TSOs to forestall any challenges to the safe operation of NPPs. However, no industry initiative addresses the topics discussed in the GL. The staff needs the requested information from NPP licensees to determine whether applicable regulatory requirements are being met in regard to the grid topics addressed in the GL. Also, see the staff response to Comment S-1 of Bin 6.
6	B (page 6, paragraph 4)	BPA respectfully urges the Commission to determine that any Critical Infrastructure Information that would be provided to Entergy Northwest by BPA, and subsequently to the Commission as a result of the proposed GL, be determined to be of the type of non-safeguards sensitive unclassified information that would not be subject to disclosure to any third parties.	Fully Incorporated - The staff agrees with the comment that all nonsafeguards sensitive unclassified information should be protected. Addressees should consult SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Reactors From Public Disclosure," dated October 19, 2004, to determine if their responses contain sensitive unclassified (nonsafeguards) information and should be withheld from public disclosure. Addressees should also refer to 10 CFR 2.390 and identify the information submitted to the NRC as nonsafeguards sensitive unclassified information. If the staff agrees with that assertion, the information will be withheld from public disclosure in accordance with 10 CFR 2.390. (See page 14 of GL for reference to SECY-04-0191, "Withholding Sensitive Unclassified Information Concerning Nuclear Reactors From Public Disclosure," dated October 19, 2004.)

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
6	D -G1* * General Comment (page 1)	Detroit Edison is concerned that the proposed practice of transmission operators providing certain information to nuclear generators could be inconsistent with existing Federal Energy Regulatory Commission (FERC) standards. In providing a nuclear generator with information on regional grid conditions and contingency analysis results, an independent transmission operator could be viewed as providing the nuclear generator with a competitive advantage over other generators that they serve. Specific recognition of the need for nuclear generators to have access to this information needs to be factored into the development of future changes to FERC standards.	See the staff's response to Comment S-10 of Bin 6.
6	E-2 (Attachment 1, Comment 2)	The terms "levels of contingencies" and "various contingencies" needs to be defined in the GL.	Not Incorporated - The level of contingencies for assessing the reliability of offsite power was defined during the original licensing of the NPPs. The various contingencies applicable to a particular NPP should be considered to determine whether these power sources are capable and operable in the deregulated electric grid.
6	E-4 (Attachment 1, Comment 4)	If all of the questions are expected to be addressed, it would be helpful to number each question. For example, Question 2 contains approximately 11 sub-questions which could be labeled 2 a) through 2 k) to facilitate standard binning of information and ensure more complete responses.	Fully Incorporated - Each question in the GL requests information on a specific topic with multiple aspects. The staff numbered the applicable questions with sub-questions as the commenter suggests.

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
6	E-7 (Attachment 1, Comment 7)	It appears that the draft GL is a duplication of a process that was already in progress in the industry (nuclear generators and transmission authorities) well before the August 14th blackout. Therefore, Entergy believes that the additional effort requested by the draft GL is unnecessary.	See the staff response to Comments A and S-1 of Bin 6.
6	G-1d (Comment 1, page 3, paragraph 3)	TI 2515/156 and 2515/163 have not revealed any significant plant-specific or generic issues of non-compliance. If the NRC inspection results have not shown significant compliance problems, the need to issue a GL for the purpose of achieving compliance is questionable.	Not Incorporated - Both TI 2515/156 and 2515/163 have revealed a considerable amount of variability in NPP/TSO communication protocols and in the monitoring of grid conditions for maintenance risk assessments. Therefore, the staff is issuing the GL to obtain information on the topics discussed in the GL.
6	G-2 (Comment 2, page 3, paragraph 6, and page 4, paragraphs 1 & 2)	It appears from the proposed GL that the NRC expects licensees to enter formal agreements with the TSO establishing appropriate protocols and coordination for early detection of degraded grid conditions. The NRC should recognize that it has limited jurisdiction to regulate the relationship between the TSO and NPP. Existing NRC regulations do not mandate that a NPP must have particular formal agreements in place with the TSO or that the NPP or TSO utilize any particular method of monitoring grid conditions such as an RTCA program. The NRC should also recognize that there are regional differences with respect to the need for formal agreements between the NPP and its particular TSO.	See the staff response to Comments S-4 and S-10 of Bin 6.

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
6	G-3 (Comment 3, page 4, paragraph 6)	The NRC should explicitly allow licensees to take credit for provisions of existing Interconnection Agreements and related protocols that ensure adequate communication and coordination between the NPP and the TSO.	Fully Incorporated - The staff agrees with this comment. The staff will modify the GL accordingly. (The revised text appears on GL page 9.)
6	G-5 (Comment 5, page 6, paragraph 1)	The NRC would benefit from conducting a technical conference among all the stakeholders, including NPP licensees, the TSOs, reliability organizations, and interested state and federal agencies. A technical conference could be designed to allow the stakeholders to develop a standardized model and a pro forma communications protocol.	Partially Incorporated - The staff agrees that a technical conference for all stakeholders may be beneficial. However, the staff needs to obtain the information requested in the GL to determine the scope of the issues for such a conference. The staff will consider holding such a conference after it has reviewed the information in the responses to the GL.
6	M-1 (Enclosure, page 1, paragraphs 2 & 3)	The Electric Power Research Institute (EPRI) routinely publishes its review of LOOP events in the US (Ref. EPRI Technical Report 1009889, "Losses of Off-site Power at U.S. Nuclear Power Plants - Through 2003," April 2004). The EPRI report cautions against combining plant-centered LOOP events with the August 13, 2003 grid event, as doing so leads to misleading statistics and conclusions. The Staff's proposed GL appears to do just that. Consequently, NMC believes that it would be premature to issue this GL pending resolution of comments on the basis documents.	Not Incorporated - The August 13, 2003, event was related to grid disturbance and instability. The staff does not agree with the commenter that this event was combined with plant centered LOOP events. As stated earlier, the purpose of the GL is to request information to enable the staff to determine whether applicable regulatory requirements are being met in regard to the grid, maintenance rule and station blackout topics addressed in the GL.

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
6	M-4 (Enclosure, page 2, paragraphs 2 & 3)	<p>The licensee of the NPP in a deregulated electrical market typically must maintain a required "distance" from the TSO to avoid any potential for the generation and transmission companies to manipulate the market price of electricity. The NPP can only provide the TSO with the preferred operating limits to minimize the probability that the degraded voltage/frequency protection is challenged and the desired actions to be taken to expedite recovery from a loss- of-offsite power (LOOP) event (addressed by 10 CFR 50.63). However, this documentation does not carry the force of a law and the NPP may not be able to assure compliance to these requirements under all circumstances. The proposed GL assigns too much significance to these operating protocols and letters of agreement. The TSO is governed by the rules and regulations of FERC, NERC, including the regional Reliability Council. For adequacy of a transmission system (TSO) to supply each NPP with offsite power, the TSO requirements need to be established thru NERC, not through a backdoor approach by the NRC to put requirements on the NPP that it cannot reliably enforce.</p>	<p>Not Incorporated - It is important that NPP licensees and TSOs have a communication interface, together with other local means, and keep each informed of changes in the plant switchyard and offsite power grid so they can determine the impact of these changes on the operability of the NPPs' offsite power systems. The staff is seeking information on how licensees ensure that the offsite power system is operable as required by plant TSs if there is no standing agreement between the licensee and its TSO. The staff expects agreements and protocols between the licensee and its TSO to include preferred operating limits for the offsite power system and preferred actions for recovering from a LOOP event. The staff acknowledges that these agreements may not be binding in all circumstances, but the agreements make the TSO aware of the NPP's offsite power requirements. Furthermore, when the preferred operating limits for the offsite power system are in jeopardy, the TSO can inform the NPP licensee so that appropriate actions are taken.</p> <p>See the staffs response to Comment S-4 of Bin 5 and S-10 of Bin 6.</p>

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
6	M-7 (Enclosure, page 3, paragraphs 3 & 5)	<p>The proposed GL states that the ability to predict contingency conditions in the transmission network is necessary for determining OPERABILITY, as defined in TS, for the offsite circuits. Nothing in the current Standard TS for operating reactors implies such a condition. NMC believes that current TS adequately define the requirements for determining the OPERABILITY of the offsite circuits, based upon actual switchyard conditions, and that the Loss-of-Offsite Power (LOOP) instruments are adequate for detecting degraded voltage/frequency conditions in the switchyard. NMC has reservations about the state-of-the-art of the RCTA software that preclude its use for taking such prescriptive, compensatory actions based upon its calculations. Or worse, for the NPP to take such actions when the RCTA is not available to make such predictions. Until this technology is proven, it should not be used to make OPERABILITY determinations within the TS.</p>	<p>Not Incorporated - GDC 17 requires provisions to minimize the probability of the loss of power from the transmission network after a loss of the power generated by the nuclear power unit. The loss of the power generated by the nuclear power unit (trip) is an anticipated operational occurrence. It is therefore necessary that the offsite power circuits be designed to be available following a trip of the unit to permit the functioning of SSCs necessary to respond to the event. However, the trip of an NPP can affect the grid, resulting in a LOOP. In general, plant TSs require that the offsite power system be operable as part of the limiting condition for operation and specify what actions are to be taken when the offsite power system is not operable. Plant operators should therefore be aware of the capability of the offsite power system to supply power, as specified by TSs, during operation and situations in which in a LOOP can result following a trip of the plant. If the offsite power system is not capable of providing the requisite power, the system should be declared inoperable and pertinent plant TS provisions followed.</p> <p>Regarding the comment on RTCA, see the staff response to comments N-1 & 2, M-3, and S-8 of Bin 1.</p>
6	N-9 (Enclosure, Comment 9, page 6)	<p>As stated previously licensees are in compliance with NRC regulations and plant technical specifications as they relate to onsite and offsite power systems. Formal agreements between plant operators, transmission system operators, and RTCA programs are not part of the plant licensing basis; therefore, no actions are needed to restore compliance with NRC regulatory</p>	<p>Not Incorporated - The requested information will enable the NRC staff to determine whether applicable regulatory requirements (plant TSs in conjunction with 10 CFR Part 50, Appendix A, General Design Criteria 17; 10 CFR 50.65(a)(4), and 10 CFR 50.63) are being met in regard to the grid topics addressed in the GL. The staff believes the requested information is part of the licensing basis.</p>

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Bin	Comment No.	Comment	Resolution
		requirements.	See the staff response to Comment N-G2* of Bin 5.
6	O-1 (Comment 1, page 1)	Utilities are in compliance with NRC regulations associated with onsite and offsite electric power systems. Much of the information requested would impose new requirements exceeding existing regulations and plant licensing bases.	Not Incorporated - The staff is seeking information on the topics discussed in the GL to determine if the NPPs are in compliance with the NRC regulations. See the staff response to Comments S-4 and N-G2* of Bin 5.
6	O-2 (Comment 2, page 2)	Activities being conducted by FERC, INPO, NARUC, NERC, and NEI already address the NRC issues stated in the proposed generic communication, and the proposed generic communication will not enhance these activities. Issuing the proposed communication could interfere with and delay development of standards and guidance from various Federal agencies and industry groups such as INPO. This should be avoided. Active participation of NRC with these other agencies is the most effective way to assure that guidance and standards are developed that fully align with NRC's mission to protect the health and safety of the public.	See the staff response to Comments A, E-7, S-1, and S-10 of Bin 6.
6	P-2 (Comment 2, page 2)	The second paragraph implies that EDGs and safety related equipment should be declared inoperable when offsite power is declared inoperable for predicted inadequate post trip voltage support reasons. This is not consistent with standard improved technical specifications or the guidance of Regulatory Guide 1.93 "Availability of Electric Power Sources." Please	Partially Incorporated - See the staff response to Comment N-3 of Bin 1. As indicated in response to Comment N -3, the staff will clarify the GL in this regard. (See page 10 of the GL for explanation of when the onsite safety-related equipment could be lost and incapable of performing its required safety functions.)

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Bin	Comment No.	Comment	Resolution
		revise this section to clarify that EDG and safety related equipment inoperability does not result from offsite power inoperability due to predicated inadequate post trip voltage.	
6	R (page 2, paragraph 1)	Suggests that the GL indicate that the NPP develop a communication interface with both the TSO and the RA (RC) when needed.	Fully Incorporated - The staff agrees with the comment. The reference to RA and RC will be incorporated in the GL. (The revised text appears on GL page 1.)

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
6.	S-1 (Enclosure, Comment 1, page 1)	<p>The draft generic letter does not appear to recognize ongoing industry efforts in the area of grid reliability. The industry is currently addressing different aspects of this issue through several different avenues. For example, the World Association of Nuclear Operators (WANO) issued a Significant Operating Experience Report (SOER) 1999-1, "Loss of Grid," in 1999. The Institute of Nuclear Power Operations (INPO), driven by the August 14, 2003, northeast blackout event, issued an addendum to this SOER in December, 2004, to provide additional information and recommendations to licensees regarding grid reliability issues. In addition, the Nuclear Energy Institute (NEI) is coordinating industry efforts, through the Grid Reliability Task Force, to address grid reliability issues. This Task Force is actively working with various regulatory, governmental, and industry entities such as the North American Electric Reliability Council (NERC), INPO, Electric Power Research Institute (EPRI), transmission system operators, and nuclear power plant personnel to improve overall grid reliability. The combined efforts of these organizations will help to ensure the reliability of the bulk power supply systems. It is essential that the NRC staff be directly involved with these efforts such that their regulatory concerns are adequately addressed. This involvement, and the work currently undertaken by the Grid Reliability Task Force, obviates the need for this proposed generic letter.</p>	<p>Not Incorporated - The staff is in favor of all of the industry initiatives and activities cited by the commenter. Based on the information gathered by Temporary Inspections (TI) 2515/156 and 2515/165 to assess NPPs' readiness for grid challenges during the summers of 2004 and 2005, respectively, there is much variability in the use of NPP/TSO communication protocols and NPP configuration risk management, which is required by 10 CFR 50.65. The staff is concerned that pending the completion of the ongoing industry initiatives, the NPP operators may not have a good enough understanding of the offsite power system conditions to assure adequate post-trip voltage or may not know the condition of the grid before taking a risk-significant piece of equipment out of service for maintenance. The staff believes the GL is needed to obtain information on the issues discussed in the GL for further staff assessment and action.</p>

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
6	S-6 (Comment 6, page 2)	<p>Real time contingency analysis can benefit the transmission system operators and dispatchers to determine grid conditions. However, it would be inappropriate to rely solely on an RTCA program to determine grid conditions and offsite power operability. The end user must be qualified to make judgments and interpretive assessments of emerging problems as they arise in the event of computer failures or during scheduled software maintenance windows of the RTCA program. A simple "dashboard red light/green light" form of RTCA program will give either a false sense of security or unnecessary paranoia under many scenarios. Also, since the RTCA program relies on accurate telemetering of many data points, the results of the system state estimation calculation and the effects of relevant contingencies can be significantly inaccurate or misleading depending on the availability and accuracy of the telemetered data. - - - - The draft generic letter should reduce the apparent emphasis on the need to use RTCA programs and should instead focus on promoting the enhancement of communication protocols between the transmission system operators and the nuclear power plants (which may or may not include RTCA programs).</p>	<p>Not Incorporated - The North American Electric Reliability Council (NERC), an industry organization, is developing grid reliability and operating standards and is responsible for maintaining the reliability of the electrical grid. The NERC standards include the use of RTCA for preserving the integrity of the electrical grid. The use of the software has increased over time because the thousands of scenarios from actual and simulated events warrant evaluation in a few minutes. All North American control centers will have this capability in some form by the end of 2005. In most areas, especially areas with NPPs, multiple overlapping layers of RTCA are done by independent entities.</p> <p>In a typical arrangement, the local transmission owner/operator runs its own RTCA program for the local network. The independent system operator (ISO) runs an RTCA program for the local network at a higher voltage level and for the adjacent areas. The ISOs monitor the voltage levels at nuclear plant switchyards. ISOs are responsible for identifying actions necessary to maintain the stability of the grid, and communicating the need for such actions to nuclear stations or other generation and transmission entities. Moreover, the procedures for communication, the legal authority for ordering actions, and the reporting of violations are periodically reviewed by regional reliability councils and NERC. In short, the NRC staff anticipates that end users will appropriately assess RTCA program results in judging the operability of the NPP offsite power system. Accordingly, this GL solicits information on how nuclear operators interact with grid operators and use the capabilities of grid operators to ensure that offsite power remains available and that the risk-significant maintenance</p>

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Bin	Comment No.	Comment	Resolution
6	S-7 (Comment 7, page 3)	The draft generic letter implies that licensees are not complying with the regulations if they haven't established an RTCA program, a real time grid stability and offsite power availability assessment for each maintenance activity, and real time NPP/Transmission System Operator (TSO) communication protocols. These proposed initiatives are not specifically required by 10 CFR 50, Appendix A, General Design Criterion 17, or 10 CFR 50.65, 10 CFR 50.63, or the Technical Specifications for an offsite power system. As such, licensees not fully endorsing all these proposed initiatives should not be perceived as violating regulations, nor should the proposed initiatives be imposed upon licensees without an appropriate backfit analysis or rulemaking.	<p>Not Incorporated - NPP TSs require the offsite power system to be operable as a part of the limiting conditions for operation and specify actions to be taken when the offsite power systems not operable. Since the capability of the offsite power system cannot be tested except when challenged in an actual event, the design bases for the offsite power system can only be assured by evaluating grid and plant conditions and the associated analyses. An RTCA software program is a tool for continually assessing grid reliability and the functionality of the offsite power system. Plant operators should be aware of the capability of the offsite power system to supply power as specified by TSs during operations and situations that can lead to a LOOP after a trip of the plant. The TSs and existing regulations require this capability.</p> <p>See the staff response to Comment S-4 of Bin 5.</p>
6	S-9 (Comment 9, page 3)	The draft generic letter should not presume that the use of a real time contingency analysis program is the best or only viable method to assure adequate post-trip voltage levels. For example, the draft generic letter discusses "a reduction in the plant's switchyard voltage as a result of the loss of the reactive power supply to the grid from the NPP's generator." It is reasonable to conclude from this statement that if the NPP generator is not providing reactive power to the grid prior to its tripping, then switchyard voltage will not be reduced. Therefore, a contingency analysis program is unnecessary to make this determination.	<p>Not Incorporated - The staff agrees that it is reasonable to conclude that if the NPP generator was not providing reactive power to the grid before tripping, switchyard voltage is not reduced. However, many NPPs routinely provide reactive support to the grid. The reduction in post-trip voltage can be caused by many other conditions on the grid. An RTCA program is therefore useful for determining if the offsite power system is operable and capable within the defined contingencies for the design.</p>

Table 3: Resolution Matrix for Comments

Bin	Comment No.	Comment	Resolution
6	S-10 (Comment 10, page 3)	Reliance on a complex computerized RTCA system that is not under the ownership, control, or oversight of the NPP to determine the adequacy of a critical plant parameter is problematic from a regulatory point of view. In addition, the TSO may be limited as to what information they can provide to the NPP regarding the combination of contingencies based on the FERC Order 2004. The final generic letter, if issued after consideration of industry comments to the contrary, should simply focus on how the NPP assures that its offsite power circuits are operable (i.e., having the capability to mitigate the effects of a design basis event or effect a safe shutdown), without requesting information that is clearly beyond the NPP licensing basis, such as how the TSO operates their grid or what business agreements are in place between the TSO and NPP owner(s).	<p>Not Incorporated - The GL does not request information on how the TSO operates its grid or what business agreements are in place between the TSO and NPP owner or owners. Rather, the GL focuses on topics related to NPP/TSO communication protocols for assuring that the offsite power system is operable and capable and for assessing grid conditions for maintenance risk assessments.</p> <p>In FERC Order 2004, "Standard of Conduct," dated November 25, 2003, and FERC Order 2004-A, "Standards of Conduct for Transmission Providers, Final Rule; Order of Rehearing," dated April 16, 2004, FERC has consistently interpreted 18 CFR 358.5(b)(8) as an exemption that permits a NPP operator and a grid operator to share crucial operating information.</p>

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Bin	Comment No.	Comment	Resolution
6	S-12 (Comment 12, page 4)	The summary paragraph labeled "(2)" near the beginning of the draft generic letter mentions "Use of... real time contingency analysis programs to monitor grid conditions for consideration in maintenance risk assessments." However, the corresponding sections under "Discussion" and "Requested Information" discuss only protocols--not contingency analysis programs. No convincing argument has been made for the need for such programs to perform maintenance risk assessments, so their mention should be removed from the earlier text.	Partially Incorporated - The staff will make item 2 and the Discussion section in the GL consistent with each other. The staff seeks information on whether existing NPP licensees' methods for assessing and managing the risk of maintenance activities under varying grid conditions are acceptable. The staff believes that adequate maintenance risk assessment includes licensee consideration of external events and conditions, including the reliability of the grid and the offsite power system for grid-risk-sensitive maintenance activities. RTCA is one of several tools used by TSOs for assessing the reliability of the grid for various contingencies. The staff therefore wants to know whether licensees are obtaining information from their TSOs on grid reliability before and during grid-risk-sensitive maintenance activities and whether this information is based on RTCA.
6	S-14 (Comment 14, page 4)	Internal NRC Expert Panel - While the qualifications and experience of the expert panel are undoubtedly impressive, STARS is disappointed that the panel did not include representation from the industry, key stakeholders, or other regulatory and governmental agencies that are responsible for grid operation. Stakeholder participation in this process could have added valuable insights as to how bulk power supply systems are managed and operated, and how licensees ensure regulatory compliance with the regulations cited in this draft generic letter.	Not Incorporated - In response to the August 14, 2003, blackout, the NRC convened an internal expert panel to identify all relevant actions by nuclear generating facilities in connection with the outage. The panel focused on collecting and analyzing data from every affected nuclear plant and determining whether any activities at the plants caused or contributed to the power outage or its spread or involved a significant safety issue. Outside experts would likely have provided valuable information and insights, but it was not practical to include them on the panel, and still obtain timely results. In any event, the expert panel's report was just one input to the decision to issue the GL.
6	State of NJ (page 1,	Fully Supports the NRC's proposed information request in light of the consequences of the	The staff agrees.

Table 3: Resolution Matrix for Comments			
Bin	Comment No.	Comment	Resolution
	paragraph 3)	recent, August 14, 2003, blackout event. Recommends that the proposed GL be implemented on a schedule such that it can be assured that all nuclear power facilities in NJ will be in full compliance with the proposed GL prior to the start of the 2006 summer season.	
6	T - G2* *General Comment	TVA is also concerned with the NRC's emphasis in the draft GL concerning the use of a realtime contingency analysis (RTCA) program to determine the adequacy of offsite power at the nuclear generating station, and there is a concern for maintenance risk assessments consideration. The use of a RTCA program is not necessarily the best or only viable method to assure adequate post-trip voltage levels. RTCA programs use an unproven technology that is in the early stages of development and implementation by various transmission organizations.	See the staff response to Comments N-2, M-3, and S-8 of Bin 1 and S-7 of Bin 6 regarding RTCA.

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6	T - G3* *General Comment	<p>INPO evaluation and assessment of utility implementation of SOER recommendations will ensure that nuclear utilities are addressing the issues. The nuclear industry has also been working with the North American Electric Reliability Council (NERC) and regional transmission organizations to develop and issue NERC standards that will address the need for formal agreements and communications protocols regarding the special operating requirements of nuclear generating stations. TVA is participating in grid reliability workshops sponsored by NEI Electric Power Research Institute (EPRI), INPO, and NERC. We believe that these forums are the correct approach to address grid reliability issues and that the proposed GL is unnecessary given the upcoming issuance of these new standards and the implementation of grid reliability programs.</p>	<p>Not Incorporated - The staff is in favor of all of the industry initiatives and activities cited by the commenter. Based on the information gathered by Temporary Inspections (TI) 2515/156 and 2515/165 to assess NPPs readiness for grid challenges during the summers of 2004 and 2005, respectively, there was much variability in the use of NPP/TSO communication protocols and NPP configuration risk management (required by 10 CFR 50.65). The staff is concerned that, pending the completion of the ongoing industry initiatives, NPP operators may not have a good understanding of the power system conditions needed to assure adequate post-trip voltage or know the condition of the grid before taking a risk-significant piece of equipment out of service for maintenance. The staff needs the requested information for further staff assessment and action.</p> <p>The GL is not addressed to transmission system operators and does not suggest that the NRC is considering a requirement that the TSOs give certain information to licensees. If the NRC determines that such a requirement is needed to ensure compliance with NRC requirements applicable to licensees or to adequately protect public health and safety or the common defense and security, the NRC will impose the requirement by rulemaking or through orders. The NRC will consider any backfit issues in issuing such a rule or orders. The NRC staff is not now suggesting that the Commission impose requirements on TSOs.</p> <p>See the staff response to Comment S-1 of Bin 1.</p>

