

**NRCREP Resource**

**From:** Malcolm, Scott [malcolms@aecl.ca]  
**Sent:** Friday, July 25, 2008 11:08 AM  
**To:** NRCREP Resource  
**Cc:** jmacdonald@mirion.com; Satish Aggarwal; John.Disosway@dom.com; Attarian, George; Harvey.Leake@aps.com  
**Subject:** IEEE NPEC Comments on Draft Regulatory Guide DG-1195  
**Attachments:** IEEE 08\_07\_25.pdf

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5/22/08

73 FR 28491

Dear Sir or Madam:

The attached comments on draft regulatory guide DG-1195 are submitted by the IEEE Nuclear Power Engineering Committee (NPEC). These comments were provided by the membership of NPEC Sub-committee 4 (SC-4, Auxiliary Power) that has responsibility for IEEE Standards relating to Electrical Equipment for Nuclear Power Generating Stations. The comments have been reviewed and approved by AdCom, the governing body of NPEC, and as such represent a consensus position of NPEC.

Very truly yours,

Scott Malcolm  
Chair,  
IEEE Nuclear Power Engineering Committee

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July-08



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July 25, 2008

Rulemaking, Directives and Editing Branch  
Office of Administration  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Comments on Draft Regulatory Guide DG-1195  
"Draft Regulatory Guide DG-1195 Availability of  
Electric Power Sources"

Dear Sir or Madam:

The attached comments on draft regulatory guide DG-1195 are submitted by the IEEE Nuclear Power Engineering Committee (NPEC). These comments were provided by the membership of NPEC Sub-committee 4 (SC-4, Auxiliary Power) that has responsibility for IEEE Standards relating to Electrical Equipment for Nuclear Power Generating Stations. The comments have been reviewed and approved by AdCom, the governing body of NPEC, and as such represent a consensus position of NPEC.

As noted, these comments are the consensus position of the Nuclear Power Engineering Committee. For follow-up or questions, please contact Mr. Harvey Leake, Chair of SC-4, through the contact information provided in the left hand column of the letter.

Sincerely,

J. Scott Malcolm  
Chair, Nuclear Power Engineering Committee

Cc: NPEC Executive  
Harvey Leake (SC 4 Chair)  
George Attarian (WG 4.6 Chair)



IEEE Nuclear Power Engineering Committee  
Sub-Committee 4, Auxiliary Power – Comments on NRC DG1195 from  
Working Group 4.6, IEEE Standard 765 "IEEE Standard for Preferred Power Supply  
(PPS) for Nuclear Power Generating Stations"

**Comment #1.** The statement: "Additionally, the nuclear power plant operator should know the grid's condition before taking pertinent risk-significant equipment out-of service, and should monitor it for as long as the equipment remains out-of-service", is outside of the stated purpose of this document, which is: "operating procedures and restrictions that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for implementation if the available electric power sources are less than the limiting conditions for operation (LCO)." Taking a risk-significant piece of equipment out of service is not the same as an available electric power source being less than the LCO. This seems to be a 10 CFR 50.65 consideration rather than a technical specification one.

**Comment #2.** The underlined portion of the following statement is not a viable requirement: Plant operators should be aware of ... situations that can result in a loss of offsite power or inadequate voltage following a trip of the plant or other transmission contingencies (which could potentially degrade the offsite power supplies) identified by the grid operator. If the offsite power system is not capable of providing the requisite power in either situation, the system should be declared inoperable...

There are always contingencies that, should they occur, could render one or both offsite supplies inoperable, but the fact that the contingencies exist does not mean that the supplies should be declared inoperable. For example, the contingency of loss of an offsite power supply circuit is always a possibility, and such an event would always render that particular supply inoperable. Obviously, the supply should not be declared inoperable just because there is a possibility that it could be lost. This seems to be an attempt to impose a new requirement that the transmission system be single-failure proof. GDC-17 contains no such stipulation, and this approach ignores risk-informed considerations.

**Comment #3.** The following is not meaningful: "The LCO of nuclear power plants are met when all electric power sources required by GDC 17 are available and... capable of withstanding a system contingency such as... loss of power from the transmission network..." A power source cannot be capable of withstanding loss of itself.

**Comment #4.** Not clear what is meant by: "the time required to detect and restore an unavailable offsite source is generally much less, especially when the grid operator uses real-time contingency analysis". The use of real-time contingency analysis does not improve the time to restore a tripped or damaged transmission line, for example. Unclear what the relevance is of real-time contingency analysis to this section.

**Comment #5.** The Reg. Guide references the need for good communications between the system operator and the Nuclear Power Plant operator. However the guide falls short of clearly establishing that the continued operation of the Nuclear Plant under certain grid conditions has a stabilizing effect and can contribute to the stabilization of the grid and the continued availability of offsite power should it be needed immediately after the grid disturbance. Good communications should be a two way street: Advance notice of grid conditions for NPP actions relating to voluntary changes to internal plant systems (eg. On Site 1E power systems redundancy reduction); and also a vehicle for system operations to request continued NPP operations even when degraded off site power conditions exist.

IEEE Nuclear Power Engineering Committee  
Sub-Committee 4, Auxiliary Power – Comments on NRC DG1195 from  
Working Group 4.6, IEEE Standard 765 “IEEE Standard for Preferred Power Supply  
(PPS) for Nuclear Power Generating Stations”

**Comment #6.** Tech Specs generally require administrative controls for power reduction, assuming degraded grid relaying doesn't initiate a shutdown. Administrative response times are relatively long in comparison to the duration of most grid disturbances. However, grid restoration activities take a lot longer and the prospect of wholesale nuclear power plant shutdowns during a restoration period should be troubling to NERC and the NRC.

The deterministic approach of adhering to tightly defined Tech Spec LCOs fails the risk informed regulation litmus test when applied to situations where the challenge to the availability of Off site power originated with the grid and not locally to the plant.

The Reg guide should address the appropriate handling of communications between System and Plant operators where a decision to remain connected to the grid during and after a major grid disturbance is involved and the availability of Off Site power has been compromised.

**Comment #7.** Page 2, first bullet - This statement is incorrect. GDC 17 only requires that one offsite circuit be available within a few seconds following a design basis accident (DBA). The second paragraph clarifies that this is the requirement.

**Comment #8.** In general, Tech Specs for offsite power are inadequate since they do not address switchyard voltage requirements and contingencies. Based on GL 2006-02, the industry was forced to impose the same LCO on a degraded switchyard voltage scenario (following a unit trip contingency) as a failure of the offsite power source (i.e. startup transformer). There should be separate action statements and times for these two scenarios. Physically not having the capability to connect to offsite power is a lot worse condition than having degraded voltage for a short duration. Also, most Tech Spec requires a unit shutdown within 24 hours if offsite power source is not available. Obviously, this makes no sense since you are better off staying on line than shutting down on your EDGs. Perhaps a reduction in power would be appropriate. NRC should work with NEI to develop standard Tech Spec changes to address these deficiencies.