

April 14, 2004

MEMORANDUM TO: File

FROM: Alan B. Wang, Project Manager, Section 2 /RA/
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: E-MAIL REGARDING FORT CALHOUN EMERGENCY DIESEL
GENERATORS STARTING AIR SYSTEM (TAC NO. MC1536)

The attached e-mail provides a description of the emergency diesel generators starting air system at the Fort Calhoun Station. This information was provided in support of a license amendment request regarding the starting air system.

Docket No. 50-285

Attachment: E-mail dtd. March 17, 2004

April 13, 2004

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DATE	4/13/04	4/12/04	4/13/04

G:/PDVI-2/FortCalhoun/EmailEDGdesc1.wpd

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From: "JAWORSKI, RICHARD L" <rjaworski@oppd.com>
To: "Alan Wang" <ABW@nrc.gov>
Date: 3/17/04 10:15AM
Subject: RE: Re: EDG Testing

Alan: We are available Friday between 1100 and 1300 CST.

Attached is the written information responding to the question you emailed yesterday.

Please pass the response along and let me know what time Friday to schedule the call.

Thanks,

Rich Jaworski
Supv - Nuclear Licensing

-----Original Message-----

From: Alan Wang [mailto:ABW@nrc.gov]
Sent: Wednesday, March 17, 2004 6:35 AM
To: JAWORSKI, RICHARD L

Subject: Fwd: Re: EDG Testing

Rich, Joe proposed Friday morning instead. Does that work for you?
Alan

CC: "BYRNE, THOMAS R" <trbyrne@oppd.com>

Section 8.4 of the FCS USAR states the following regarding the Starting Air System for the DGs:

"The engines are started with stored pressurized air. Each is provided with duplicate systems, both driven by electric motors and a diesel driven emergency compressor which is capable of charging either the primary or secondary receivers. The primary and secondary air receivers are normally supplied by plant instrument air which is maintained in the range of 200 to 240 psig by booster compressors. The emergency compressor uses ambient air in the event that power or the instrument air header is not available. Each of the engine starting air systems has capacity for five starts."

FCS has two Starting Air Systems for each DG, each capable of five DG starts. Only one of the two systems (primary or secondary) is required to start the DG, therefore only one system (primary or secondary) is required to be operable. NUREG-1432 Section 3.8.3 is written for a plant with only one air starting system for each DG. The Basis for NUREG-1432 Section 3.8.3 states the following:

"Each DG has an air start system with adequate capacity for five successive start attempts on the DG without recharging the air start receiver(s)."

When equipment in excess of that required to meet the safety analysis is installed at a plant, the word "required" is used in the TS, indicating that no action is entered if the redundant equipment (that equipment in excess of what is required) becomes inoperable. If the required equipment becomes inoperable (i.e., both the required and redundant equipment are inoperable), then the action is entered.

NEI 01-03, "Writer's Guide for the Improved Technical Specifications," specifies the following regarding use of the term "required":

"Required" is specifically used in Conditions, Required Actions and Surveillances to denote reference to equipment which is "required" by the LCO for the specific existing Applicability. Typically (for operating MODES), any component referred to is "required." In this case no clarification is needed and "required" is not specifically stated in the Conditions, Required Actions, and Surveillances. In cases where the LCO only requires some of all possible components be used to satisfy the LCO requirement, then the clarification of "required" is used in the Conditions, Required Actions, and Surveillances. Typically, it is inappropriate to state "required" in the LCO, as the LCO is the statement of what is required.

The proposed Tech Specs in the submittal dated December 1, 2003 define what is required for the DG Starting Air System in the TS Bases. This avoids a convoluted LCO statement. The following has been proposed to be added to the TS Bases Section 2.7 as part of the License Amendment Request to ensure full understanding of the DG Starting Air System operability requirements:

"Each DG has two starting air subsystems, each with adequate capacity for five successive start attempts of the DG without recharging the air start receivers. Either subsystem can fulfill the function of starting the DG, however the requirements of TS 3.7(1)a.i must be met for the required starting air subsystem. With starting air receiver bank pressure < 190 psig, sufficient capacity for five successive DG start attempts does not exist. However, as long as the receiver bank pressure is > 150 psig, there is adequate capacity for at least one start attempt, and the DG can be considered OPERABLE while the air receiver bank pressure is restored to the required limit. A period of 48 hours is considered sufficient to complete restoration to the required pressure prior to declaring the DG inoperable. This period is acceptable based on the remaining air start capacity, the fact that most DG starts are accomplished on the first attempt, and the low probability of an event during this brief period."