

NRR-PMDAPEm Resource

From: Thomas.N.Weber@aps.com
Sent: Friday, December 23, 2016 3:01 PM
To: Regner, Lisa
Cc: Lingam, Siva; George.Andrews@aps.com; Maria.Lacal@aps.com; Delbert.Elkinton@aps.com; Michael.Dilorenzo@aps.com
Subject: [External_Sender] REsponse to Question from NRC Earlier Today on SBO Loads and Cold Shutdown Loads

Lisa,

Here is the response to the question we received earlier today on the difference in loads between the BTP 8-8 and Station Blackout. The RAI asks,

In the Station Blackout (SBO) reanalysis submitted by Arizona Public Service Company (the licensee) on October 28, 2005, the licensee calculated a maximum SBO load of approximately 3364 kW to be carried by a gas turbine generator rated 3400 kW. In the current license amendment request submitted on December 21, 2016, the licensee calculated a maximum SBO load of 4494 kW to be carried by three portable diesel generators with a total rating of 4800 kW. Please explain the load differences between the two submittals.

APS Response:

The 2005 Revised Station Blackout (SBO) Evaluation submittal provided a list of loads that would be required for the 16 hour Station Blackout coping analysis. It should be noted that the Station Blackout Generators (SBOG) are connected to the A train ESF bus and it is assumed that only A train components, including the steam driven Auxiliary Feedwater Pump A will be relied upon to safely shutdown the plant. The current submittal is in support of the B train Emergency Diesel Generator (EDG) outage and includes all B train loads that would be initially sequenced onto an Emergency Diesel Generator during a LOP/FS (Loss of Offsite Power/Forced Shutdown) event in addition to loads that would be started later for shutdown cooling. The SBO for Train A and LOOP for Train B loading lists are significantly different. The LOOP train B loading list contains loads not included in the SBO Train A list, such as: The Motor Driven Auxiliary feedwater pump (948kw) , Low Pressure Safety Injection pumps (418 kw), and Containment ventilation fans (totaling 618kw). The SBO list includes the High Pressure Safety Injection pump,—(786kw), which is not included in the LOOP list. For diesel generator design basis loading considerations, it includes all Train B loads that are either sequenced on during a LOP/LS or could be manually closed in. The SBO Train A list is a more selective list of those loads necessary to safely shutdown the unit. This submittal chose the more conservative LOOP without load shedding to maximize compliance with the LOOP loads referenced in BTP 8-8.

The brief high level reconciliation of the differences are as follows.

SBO 2005 submittal for A train: 3354kw

For current submittal associated with U3 DG B train LOOP, take the SBO load stated above (3354 kw) and then add Aux feed B 948kw + containment ventilation 618kw+ Low pressure Safety injection 418kw – High pressure safety injection 786kw = 4552kw.(Note: This is very close to the total value of 4558 kw used in the LAR submittal. These values are taken from different scenarios with slightly

different load assumptions so the load numbers between the SBO and LOOP list discussed here will not reconcile exactly)

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