

**Originator:** Williams,Anthony L

**Originator Phone:** 5299

**Originator Group:** Operations Mgmt

**Operability Required:** Y

**Supervisor Name:** Vinci,Donald W

**Reportability Required:** N

**Discovered Date:** 06/05/2008 19:11

**Initiated Date:** 06/05/2008 19:22

**Condition Description:**

During a walkdown of Operations Procedure SOP 27.6, the NRC had quesitons associated with the procedure guidance. See attached list of comments.

**Immediate Action Description:**

**Suggested Action Description:**

Review comments and evaluate for procedure enhancements.

**EQUIPMENT:**

<u>Tag Name</u>	<u>Tag Suffix Name</u>	<u>Component Code</u>	<u>Process System Code</u>
ARDG-ENG	?/QP	ENGINE	ARDG

**REFERENCE ITEMS:**

<u>Type Code</u>	<u>Description</u>
PRC	SOP 27.6

**TRENDING (For Reference Purposes Only):**

<u>Trend Type</u>	<u>Trend Code</u>
REPORT WEIGHT	3
HEP FACTOR	P
INPO BINNING	CM3
EM	ESPE
KEYWORDS	KW-DIESEL GENERATOR
KEYWORDS	KW-MODIFICATION TESTING
KEYWORDS	KW-APPENDIX R
KEYWORDS	KW-NRC
KEYWORDS	KW-PROCEDURE
KEYWORDS	KW-MODIFICATION CLOSE OUT
KEYWORDS	CEC

Remarks Description:

Closure Description:

**Operability Version:** 1**Operability Code:** EQUIPMENT FUNCTIONAL**Immediate Report Code:** NOT REPORTABLE**Performed By:** Garnache, Kenneth S

06/06/2008 01:42

**Approved By:** Hock, Charles E

06/06/2008 01:56

**Operability Description:**

The CR refers to a list of items to enhance the performance of 2-SOP-27.6 Unit 2 Appendix R Diesel Generator Operation. The items should be evaluated and incorporated where appropriate, but none of the items are required to be implemented to maintain the Unit 2 SBO/Appendix R diesel functional. Each individual item and the answer to it is listed in the attachment. The Unit 2 SBO/Appendix R diesel is functional.

**Approval Comments:**

The Unit 2 SBO/Appendix R diesel is functional as validated by the attachment.

**Attachments:**

Operability Description

Functionality determination

# Attachment Header

**Document Name:**

untitled

**Document Location**

Operability Description

**Attach Title:**

Functionality determination

## NRC Question associated with SOP 27.6

1. In Attachment 4, Step 1.2 "IF desired to energize Bus 6A or 3A, etc." this step sequence actually appears to align only Bus 3A.

Answer: Operations should review the procedure and make any required changes. For the SBO/Appendix R diesel to perform its safety function during a Station Blackout it is required to energize ONE 480V Bus. The procedure provides guidance to energize more than ONE 480 V Bus and so the SBO/Appendix R diesel is functional.

2. Section 4.5 and Section 4.9 there is no reference to the use of PPE when going into the breaker compartments and no PPE is staged at the breakers for this purpose. Also, the emergency battery lights may not provide adequate illumination for manual breaker and transfer switch operations.

Answer: Staging PPE locally should be evaluated by operations and the adequacy of emergency lighting should be evaluated by fire protection. PPE is available close by in a dedicated locker on the 15 foot turbine hall. Flashlights are normally carried by members of operation and additional flashlights are available near by from a dedicated locker on the 53' turbine hall. Obtaining PPE or flashlights will only add a few minutes to the timeline and there is sufficient margin to perform all required actions within sixty minutes. The documented time for the latest simulation is 32 minutes and so the SBO/Appendix R diesel is functional.

3. Step 4.5.15 is for closing Breaker SBO/ASS by pressing the manual close button. The operator performing the test could not locate the button based on the instructions in this step. A reference to Step 4.9 may have provided better guidance on the buttons location.

Answer: Operations should review the procedure and make any required changes. There is sufficient margin to the timeline to allow the completion of all required actions within sixty minutes even if an operator has trouble performing a step. The documented time for the latest simulation is 32 minutes and so the SBO/Appendix R diesel is functional.

4. Step 4.5.22 requests adjustment of the cooling water throttle valves to maintain normal cooling temperatures but the normal cooling temperature values are not specified.

Answer: Operations should review the procedure and make any required changes. The procedure has values for setting cooling flows that have been analyzed under worst case conditions to keep the engine properly cooled while performing its design function. Also the SBO/Appendix R diesel has warning alarms for high jacket water temperature and high aftercooler temperature which would inform the operator to increase cooling even if he is not aware of normal temperature values and so the SBO/Appendix R diesel is functional.

5. Steps 4.5.23 through 4.5.26 request the recording and monitoring of various parameters while you are trying to align the DG for the SBO event. These steps seem more like a distraction and an impact to the alignment time.

Answer: Operations should review the procedure and make any required changes. The steps referred to start with the condition "IF time permits". The first note in the procedure section States that "The starting of the Appendix R DG should not be delayed. There is sufficient procedural guidance for the operator to understand that the required actions are the priority over recording data and so the SBO/Appendix R diesel is functional.

6. Step 4.5.30 and 4.5.30.1 are duplicate steps.

Answer: Operations should review the procedure and make any required changes. There is sufficient margin to the timeline to allow the performing of this unnecessary step within sixty minutes and so the SBO/Appendix R diesel is functional.

7. Steps 4.5.8 to Step 4.5.10 appear out of sequence and may impact alignment time. The overall step sequence starts with Step 4.5.3 at the DG switchgear for breaker alignment. Step 4.5.8 then brings you to the DG control panel, then Step 4.5.9 sends you back to the switchgear, and then Step 4.5.10 brings you back to the DG control panel.

Answer: Operations should review the procedure and make any required changes. There is sufficient margin to the timeline to allow the performing of this non optimized sequence of actions.

8. Attachment 1 Data Sheets – there is no expected data included on the sheet.

Answer: Operations should review the procedure and make any required changes. The recording of data is not a required action and so the SBO/Appendix R diesel is functional.

9. Attachment 4, Step 1.2.4 requests all 480V loads to trip pullout. No breaker list is provided. The operator on the walkdown indicated that he would use the list in 2-ECA-0.0 Attachment 2 to identify the breakers. Using this list however, would not include all the 480V MCC feeder breakers in the step. There is also no list provided for the 6.9kV breakers.

Answer: Operations should review the procedure and make any required changes. The loads in the control room are placed in pull out in step 6 of ECA 0.0 using an attached load list. The step to start the Unit 2 Appendix R diesel is step 7 of ECA 0.0 so the operator will already have a load list and the actions will already have been performed. There are no switches locally for MCC's which strip automatically and do not need to be verified. There is sufficient margin to the timeline to allow performing these required actions and so the SBO/Appendix R diesel is functional.

10. Attachment 4, Step 1.3.18 – The operator performing the procedure gets to this step only if the Bus 2A / 5A alignment is selected. This step is not addressed if the Bus 6A / 3A alignment is selected.

Answer: Answer: Operations should review the procedure and make any required changes. For the SBO/Appendix R diesel to perform its safety function during a Station Blackout it is required to energize ONE 480V Bus. The procedure provides guidance to energize more than ONE 480 V Bus and so the SBO/Appendix R diesel is functional.

11. Attachment 4 in general - The procedure leads the operator to align all four safeguards buses and the operator on the walkdown indicated that he would actually align all four safeguards buses even though the SBO design is to align one safeguards train for plant shutdown.

Answer: The CRS will direct the Operator on which bus is required to be lined up. Operators are trained to verify adequate load capability remaining on a diesel prior to starting a load. There is information in the procedure that give the SBO/Appendix R diesels load ratings and directs that when starting equipment, coordination with the CRS will be necessary to ensure adequate generator capacity is available. The emergency procedures contain a list of loads with their associated KW values. There is enough training and procedural guidance to ensure that all required actions will be taken without overloading the diesel and so the SBO/Appendix R diesel is functional.

12. There is no information in the procedure on the city water storage tank level.

Answer: The transfer from city water to service water is only required for the alternate safe shutdown scenario. This procedure section has a note that states the following: For an appendix R event, the City Water Storage Tank will provide the cooling water for the first few hours of the event. Once a Service Water Pump is running, cooling of the Appendix R DG is transferred to the Service Water System. There is also a note that states the following: Maintaining the City Water flows specified ensures that adequate volume in the City Water Storage Tank is reserved for other plant activities. There is enough procedural guidance for the operator to perform all required actions without additional information on the city water storage level and so the SBO/Appendix R diesel is functional.