

V.C. SUMMER NUCLEAR STATION

NRC JOB PERFORMANCE MEASURE

JPP-012

**LOCALLY START AN EMERGENCY D/G DURING A LOSS OF OFFSITE
POWER**

Revision No. 4

A/17

LOCALLY START AN EMERGENCY D/G DURING A LOSS OF OFFSITE POWER

TRAINEE _____ EVALUATOR _____

EVALUATOR SIGNATURE _____ DATE _____

EVALUATION METHOD: SIMULATE

EVALUATION LOCATION: PLANT

ESTIMATED TIME: 15.0 MINUTES TIME STARTED: _____

10CFR55.45 (a) 8 SAFELY OPERATE THE FACILITIES AUXILIARY AND
EMERGENCY SYSTEMS, INCLUDING OPERATION OF
THOSE CONTROLS ASSOCIATED WITH PLANT
EQUIPMENT THAT COULD AFFECT REACTIVITY OR
THE RELEASE OF RADIOACTIVE MATERIALS TO THE
ENVIRONMENT

TIME CRITICAL: No FAULTED JPM: No

TRAINEE PERFORMANCE: SATISFACTORY _____ UNSATISFACTORY _____

READ TO OPERATOR:

WHEN I TELL YOU TO BEGIN, YOU ARE TO PERFORM THE ACTIONS AS DIRECTED IN THE
INITIATING CUES. I WILL DESCRIBE GENERAL CONDITIONS UNDER WHICH THIS TASK
IS TO BE PERFORMED AND PROVIDE THE NECESSARY TOOLS WITH WHICH TO PERFORM THIS
TASK. BEFORE STARTING, I WILL EXPLAIN THE INITIAL CONDITIONS, WHICH STEPS
TO SIMULATE OR DISCUSS, AND PROVIDE INITIATING CUES.
WHEN YOU COMPLETE THE TASK SUCCESSFULLY, THE OBJECTIVE FOR THIS
JOB PERFORMANCE MEASURE WILL BE SATISFIED.

INITIAL CONDITIONS:

1. Diesel A fails to start on a loss of AC power. EOP-6.0:
Attachment 1, Step 1 has been completed.

TOOLS AND EQUIPMENT NEEDED:

1. EOP-6.0 ATTACHMENT 1

REFERENCED DOCUMENTS:

1. EOP*6.0 LOSS OF ALL ESF AC POWER

REV DATE

06/30/97

LOCALLY START AN EMERGENCY D/G DURING A LOSS OF OFFSITE POWER

TASK STANDARDS:

1. Diesel Generator 'A' is started locally with TEST MODE protection enabled.

INITIATING CUES:

1. Control Room directs locally starting D/G "A" per EOP-6.0 Attachment 1.

TERMINATING CUES:

1. EOP-6.0, Attachment I is returned to examiner.

SAFETY CONSIDERATIONS:

1. CLIMBING, LESS THAN FIVE FEET OFF FLOOR

JOB PERFORMANCE MEASURE CHECKLIST

(S) DENOTES SEQUENCED ELEMENT

(*) DENOTES CRITICAL ELEMENT

PERFORMANCE CHECKLIST:

SAT. UNSAT.

NOTE 1: Examiner informs operator that there is a "start failure" annunciator (Window 6-1) and the engine has not started. No other alarms are present. If asked about D/G air and fuel parameters, inform operator that starting air tank pressure is 400#, fuel oil system is normal and there are no flags on the relay panel.

STEP

STANDARD

S 1. At the diesel generator local control panel, monitor the alarms and indications to determine start failure. (DG-436) Use the ARP as necessary.

Alarms and indications monitored on local control panel, XCX 5201.

NOTE 2: Cue operator that VOLTAGE REGULATOR is AS SHOWN, (Auto).

STEP

STANDARD

S 2. Ensure VOLTAGE REGULATOR is in AUTO

Operator verifies VOLTAGE REGULATOR is in automatic.

NOTE 3: Cue Operator that D/G did not start after each of the following pushbuttons are depressed. Depressing the Engine Shutdown Reset pushbutton does reset the START failure annunciator, which reenergizes 7 seconds later.

STEP

STANDARD

S 3. Depress each of the following reset pushbuttons. (1) GEN RELAYS RESET (2) EXCITER RESET (3) ENGINE SHUTDOWN RESET

Operator depresses GEN RELAYS RESET, EXCITER RESET, and ENGINE SHUTDOWN RESET.

NOTE 4: Cue operator that Local/Remote/Maint switch is in the mid position. This is critical because it permits local voltage adjustment.

STEP

STANDARD

S*4. Place LOCAL/REMOTE/MAINT switch in "LOCAL".

Operator positions local control switch from REMOTE to LOCAL position. *what is this?*



JOB PERFORMANCE MEASURE CHECKLIST

PAGE 3

(S) DENOTES SEQUENCED ELEMENT
(*) DENOTES CRITICAL ELEMENT

PERFORMANCE CHECKLIST:

SAT. UNSAT.

COMMENTS: _____

NOTE 5: Cue operator that D/G did not start after EMERG START pushbutton is depressed.

STEP

STANDARD

S 5. Momentarily depress the EMERG START pushbutton.

Operator depresses EMERG START pushbutton

NOTE 6: Cue operator that engine is cranking, starts to accelerate within five seconds

STEP

STANDARD

S*6. Attempt to manual start using the Main Air Start Valve manual start (on either end of DG Engine).

Operator engages spanner wrench and depresses air start valve for 5 seconds.

COMMENTS: _____

NOTE 7: Cue operator that the D/G breaker closes after engine reaches 490 rpm, voltage is 6700 and frequency 59.5 hz (if requested).

STEP

STANDARD

S 7. Observe diesel generator starts and accelerates to 514 rpm.

Operator observes tachometer for proper rpm.

JOB PERFORMANCE MEASURE CHECKLIST

(S) DENOTES SEQUENCED ELEMENT
(*) DENOTES CRITICAL ELEMENT

PERFORMANCE CHECKLIST:

SAT. UNSAT.

NOTE 8: Cue operator that voltage is 6700 VAC, if requested.

STEP

STANDARD

S 8. Verify Generator Voltage is 6840 to 7344 Volts AC.	Operator observes voltage on AC VOLTMETER.	_____	_____
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NOTE 9: Cue operator that all alarms on XCX5201 are clear

STEP

STANDARD

S 9. Depress EMER START RESET pushbutton and reset annunciators.	Depresses EMER. START RESET pushbutton and depress annunciator reset pushbutton.	_____	_____
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NOTE 10: If identified correctly, cue operator that the TEST START pushbutton was depressed.

STEP

STANDARD

S 10. Depress TEST START pushbutton.	Depresses TEST START pushbutton.	_____	_____
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NOTE 11: Only cue operator that breaker's red light is lit after the operator indicates he will check that indication.

STEP

STANDARD

S 11. Verify DG output breaker closed.	Verifies red bkr closed light is lit.	_____	_____
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NOTE 12: Cue operator that voltage is 6700 KV before adjustment and 7200 KV after correct adjustment.

JOB PERFORMANCE MEASURE CHECKLIST

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(S) DENOTES SEQUENCED ELEMENT
(*) DENOTES CRITICAL ELEMENT

PERFORMANCE CHECKLIST:

SAT. UNSAT.

STEP

STANDARD

12. Using the AUTO VOLTAGE CONTROL raise - lower switch, adjust voltage to 7.2 KV.	Operator adjusts voltage control switch until voltage of approximately 7.2 Kv is observed	_____	_____
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NOTE 13: Cue operator that frequency is 59.5 Hz before adjustment and 60 Hz after correct adjustment.

STEP

STANDARD

S 13. Adjust frequency to 60 Hz using GOVERNOR raise - lower switch.	Operator positions governor switch to raise to adjust frequency until 60 Hz is observed on the frequency meter.	_____	_____
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Examiner Stops JPM At This Point

TIME STOPPED: _____

GENERAL COMMENTS:

NRC KA REFERENCES:

<u>KA NUMBER</u>		<u>IMPORTANCE</u>	<u>FACTOR</u>
		<u>RO</u>	<u>SRO</u>
064000.K1.01	Knowledge of the relationship between the ED/G system and the AC distribution system.	4.1	4.4