

1-085

11K

Plant Design, Operations, Configuration Facts	Assumptions	Model Changes	Questions/Notes/Sensitivity
1 3-hr depletion time for station and switchyard batteries	SPAR does not model load shedding	TBD	Q. Load shedding needed for the 3-hr battery lifetime? Q. If yes, are procedures available for load shedding? Q. Does the licensee have engineering analysis or test results supporting the 3-hr battery lifetime?
2 Gas Turbine Generators can be started and loaded one to one vital bus within one hour	SPAR credits GTGs (both needed) for the short SBO sequence where TDAFW fails	TBD	Q. What was the actual time during the event that GTGs were started and loaded? Q. Can both GTGs be started and loaded within 0.5 hrs? Q. Are procedures available? Q. Are operators trained on the procedures? Q. Can both GTG be started and loaded from the control room?
3 Both GTGs are needed to power one train in Unit 2 and switchyard loads given NO postulated SBO in Unit 3. Success criteria combinations for both GTGs: Units 1 and 2, 1 and 3.	<ul style="list-style-type: none"> Given a postulated SBO in Units 2 and 3, assume that GTGs are used to power Unit 3 No credit for swapping between Units 	<ul style="list-style-type: none"> Modify fault trees ACP-PBx-AC to add a new basic event to gate ACP-PBx-AC-3 New basic events are ACP-PBx-U3-SBO = $1.7E-2$ (based on independent and CCF failure of 2 EDGs) 	S. Sensitivity analysis show that these mods have a negligible effect - probability of two SBOs less than failure probability of Initiating GTGs. N. For Unit 3, use the same mods. For Unit 1, don't add new basic events.
4 GTG failure probabilities	SPAR uses values from the IPE which looks low compared with similar equipment at other plants		Q. Does the licensee have data to support the FTS, FTR, and MOOS probabilities used in the IPE?

	<p>Recovery of power during a postulated SBO and RCP seal failure:</p> <ul style="list-style-type: none"> • Time available = Nominal (time to core uncover is 2.5 hrs and power to the first bus was actually recovered at 2 hrs) • Stress = extreme (core uncover imminent if operator fails) • Complexity = moderate (communications and coordination required outside control room) 	<p>OEP-XHE-NOREC-SL = 1E-2</p> <p>(1 x 5 x 2 x 1e-3 = 1E-2)</p>	<p>S. Do sensitivity analysis for offsite power recovery within 30 minutes (P = 0.001 with Time Available = 5x time required or x0.1)</p>
	<p>Recovery of power during a postulated SBO and prior to battery depletion:</p> <ul style="list-style-type: none"> • Time available = Nominal (time to core uncover is 3 hrs and power to the first bus was actually recovered at 2 hrs) • Stress = extreme (core uncover imminent if operator fails) • Complexity = moderate (communications and coordination required outside control room) 	<p>OEP-XHE-NOREC-BD = 1E-2</p> <p>(1 x 5 x 2 x 1e-3 = 1E-2)</p>	<p>N. SPAR model does not credit offsite power recovery following battery depletion - dc power required to close breakers</p> <p>S. Do sensitivity analysis for offsite power recovery within 30 minutes (P = 0.001 with Time Available = 5x time required or x0.1)</p>
<p>5 2 of 6 feeder breakers from offsite power to the vital 4160 v buses failed to close when recovering offsite power</p>	<p>TBD</p>	<p>TBD</p>	<p>Q. Which breakers FTC? Q. What was the cause of breaker failure (e.g., CCF)?</p>