| 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?<br>Q. If yes, are procedures available for load shedding?<br>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?<br>Q. Can both GTGs be started and loaded within 0.5 hrs?<br>Q. Are procedures available?<br>Q. Are operators trained on the procedures?<br>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.** | • Given a postulated SBO in Units 2 and 3, assume that GTGs are used to power Unit 3<br>• **No credit for swapping between Units** | • Modify fault trees ACP-PBx-AC to add a new basic event to gate ACP-PBx-AC-3<br>• 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 failue probability of intiating GTGs.**<br>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? |

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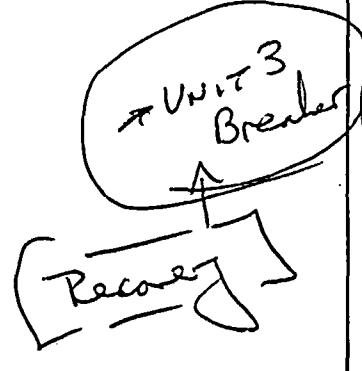
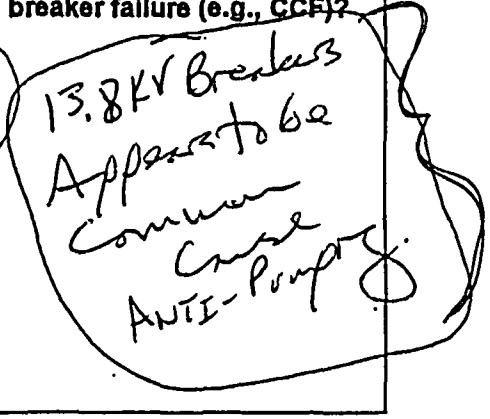
|---|---|---|---|
| | Recovery of power during a postulated SBO and RCP seal failure:<br>• Time available = Nominal (time to core uncovery is 2.5 hrs and power to the first bus was actually recovered at 2 hrs)<br>• Stress = extreme (core uncovery imminent if operator fails)<br>• Complexity = moderate (communications and coordination required outside control room) | OEP-XHE-NOREC-SL = 1E-2<br><br>(1 x 5 x 2 x 1e-3 = 1E-2) | **S. Do sensitivity analysis for offsite power recovery within 30 minutes (P = 0.001 with Time Available = 5x time required or x0.1)** |
| | Recovery of power during a postulated SBO and prior to battery depletion:<br>• Time available = Nominal (time to core uncovery is 3 hrs and power to the first bus was actually recovered at 2 hrs)<br>• Stress = extreme (core uncovery imminent if operator fails)<br>• Complexity = moderate (communications and coordination required outside control room) | OEP-XHE-NOREC-BD = 1E-2<br><br>(1 x 5 x 2 x 1e-3 = 1E-2) | N. SPAR model does not credit offsite power recovery following battery depletion - dc power required to close breakers<br><br>**S. Do sensitivity analysis for offsite power recovery within 30 minutes (P = 0.001 with Time Available = 5x time required or x0.1)** |
| **5 2 of 6 feeder breakers from offsite power to the vital 4160 v buses failed to close when recovering offsite power** | **TBD** | **TBD**<br>  | **Q. Which breakers FTC?**<br>**Q. What was the cause of breaker failure (e.g., CCF)?**<br>  |