



Simulator Foxboro Digital FW Control System Failure/Replacement
Brunswick Nuclear Plant – Larry Dunlap



- Instructors were developing scenarios for the upcoming phase of Continued Training. While running a loss of main UPS power the Foxboro Digital Feedwater Control System failed to reinitialize as expected.
- Normally, a Sun SparcStation sends programming data to the Stimulated Foxboro Digital FW Control System to reload it after a loss of UPS power.
- It was found that sometime previously (unknown when), the Sun SparcStation had failed. A main board failed and the system was not functioning and would no longer start up.
- Scenario development activities were suspended. A plant outage was in progress but was scheduled to end in two weeks and training to resume.

- Stimulated Foxboro Digital FW Control System.



- SUN SparcStation



- The problem resulted in the Digital FW Control System being unavailable and the Simulator not being able to be used. (FW Control System would not work at all and a plant SCRAM on low Rx water level occurred almost immediately on going to RUN).
- No spare SparcStation was available in the Simulator and none was available from the plant (the plant has one in each Unit and also has no spares).
- Sought assistance from Plant Engineering and Procurement Departments.
- Took approximately a week to locate and obtain a replacement system and two days to set up and configure the system with assistance from Plant Engineering.
- Fortunately the Simulator was not being used for training of Operators during the time it was unavailable, however it did limit development time for scenarios for the upcoming phase (the Instructors came in on the weekend following restoration to complete the development needed). We got it back just in time for training!

■ Lessons Learned

- Plant Engineering assistance was needed as Sim Support knew only basics about the system. Historically this equipment had been maintained with the assistance of a Vendor and Plant Engineering, however it had not required any attention in several years and personnel had turned over multiple times and were unfamiliar with the Simulator equipment
- No spare hardware was available (we now have a spare workstation and drive)
- The plant is also susceptible to this failure (and has NO spares)
- Need to implement a project to replace old obsolete STIMULATED hardware with SIMULATED version to prevent similar failures in the future.

- How to Replace Obsolete STIMULATED Hardware with SIMULATED versions
- #1 – Solicit Industry Peers
DOES ANYONE HAVE THESE!?!?!
- Foxboro Digital HandStations



- Foxboro Digital HandStations



- Foxboro Digital Feedwater Control HandStations



- If you have a SIMULATED hardware solution to Foxboro HandStations please contact me!
- We have a software solution, we just need the hardware to drive!
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