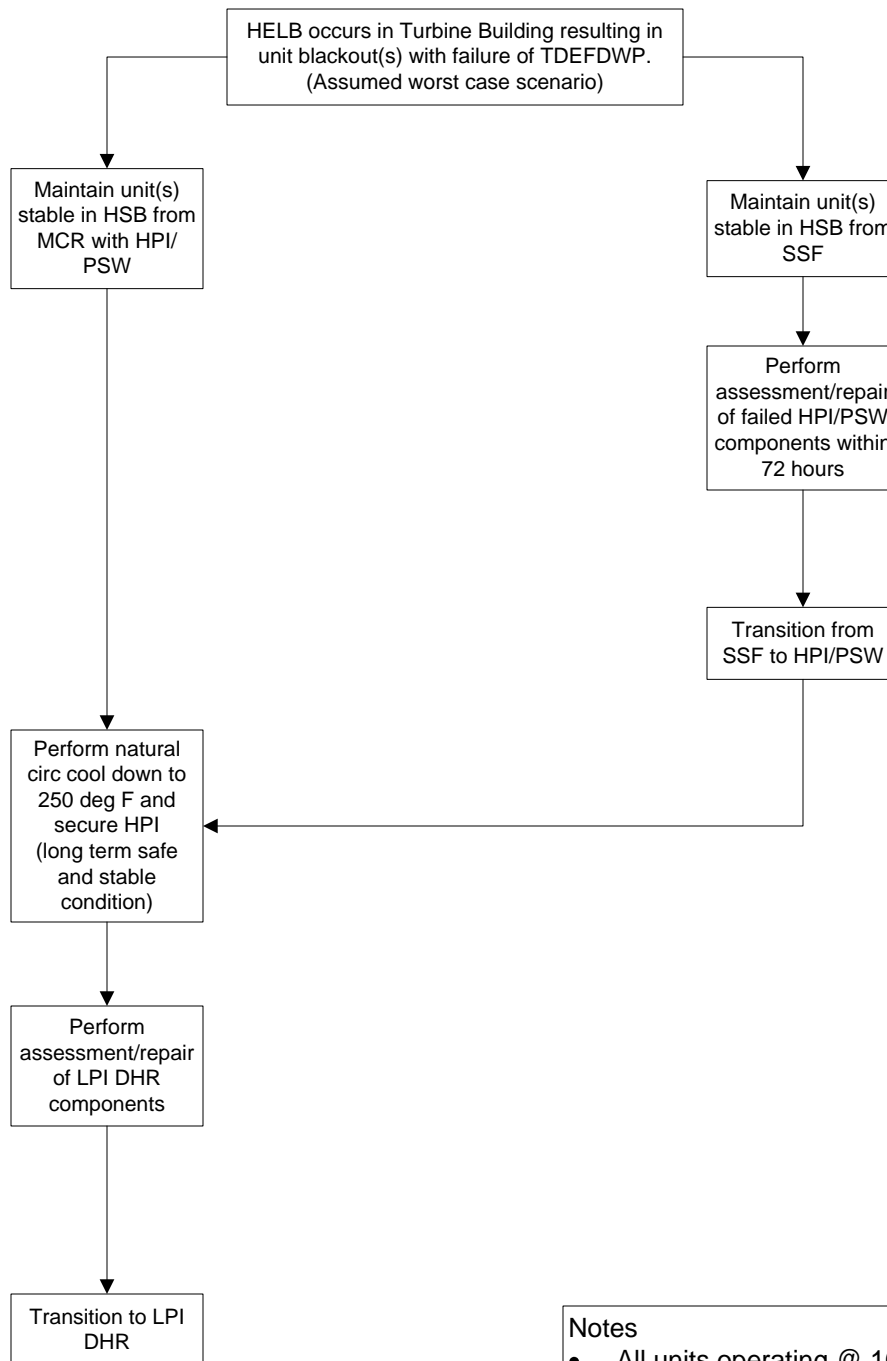
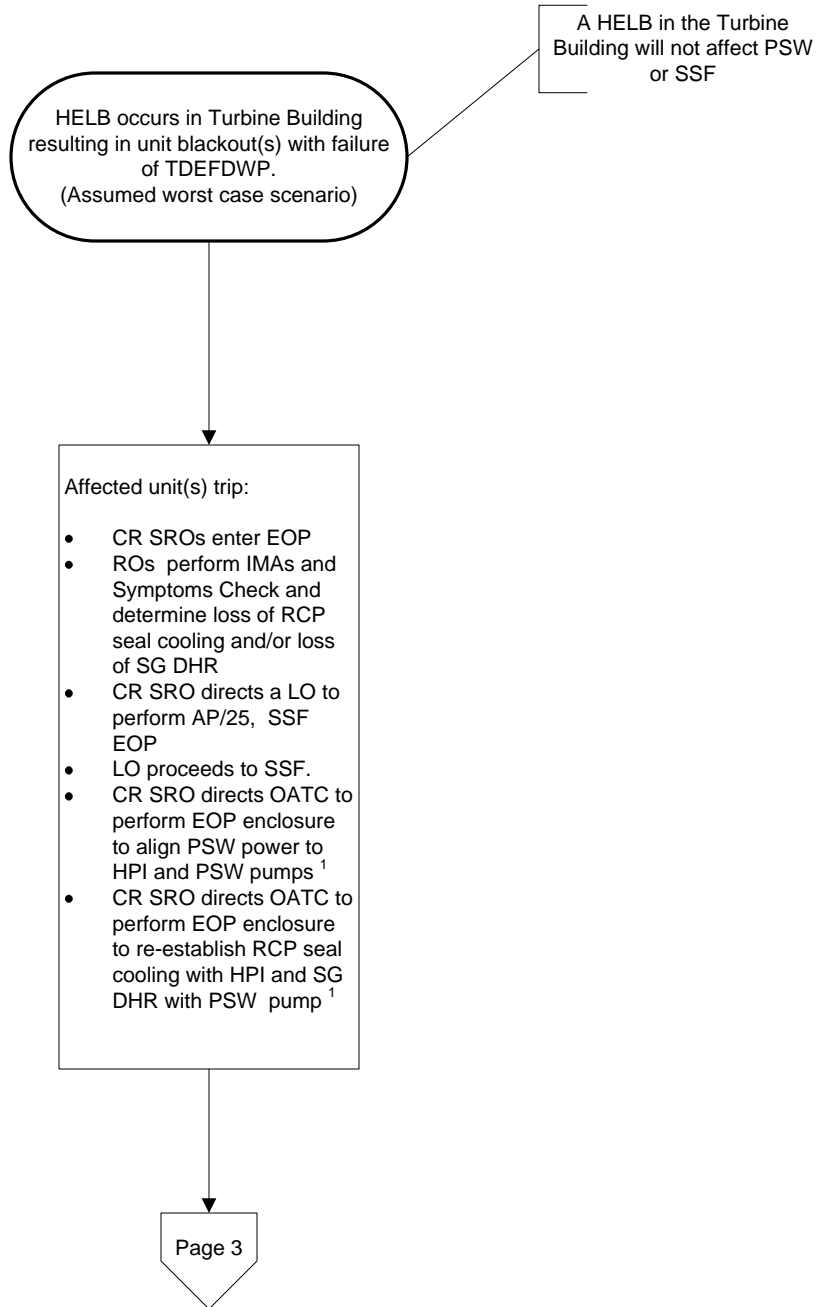


### Turbine Building HELB Event Overview



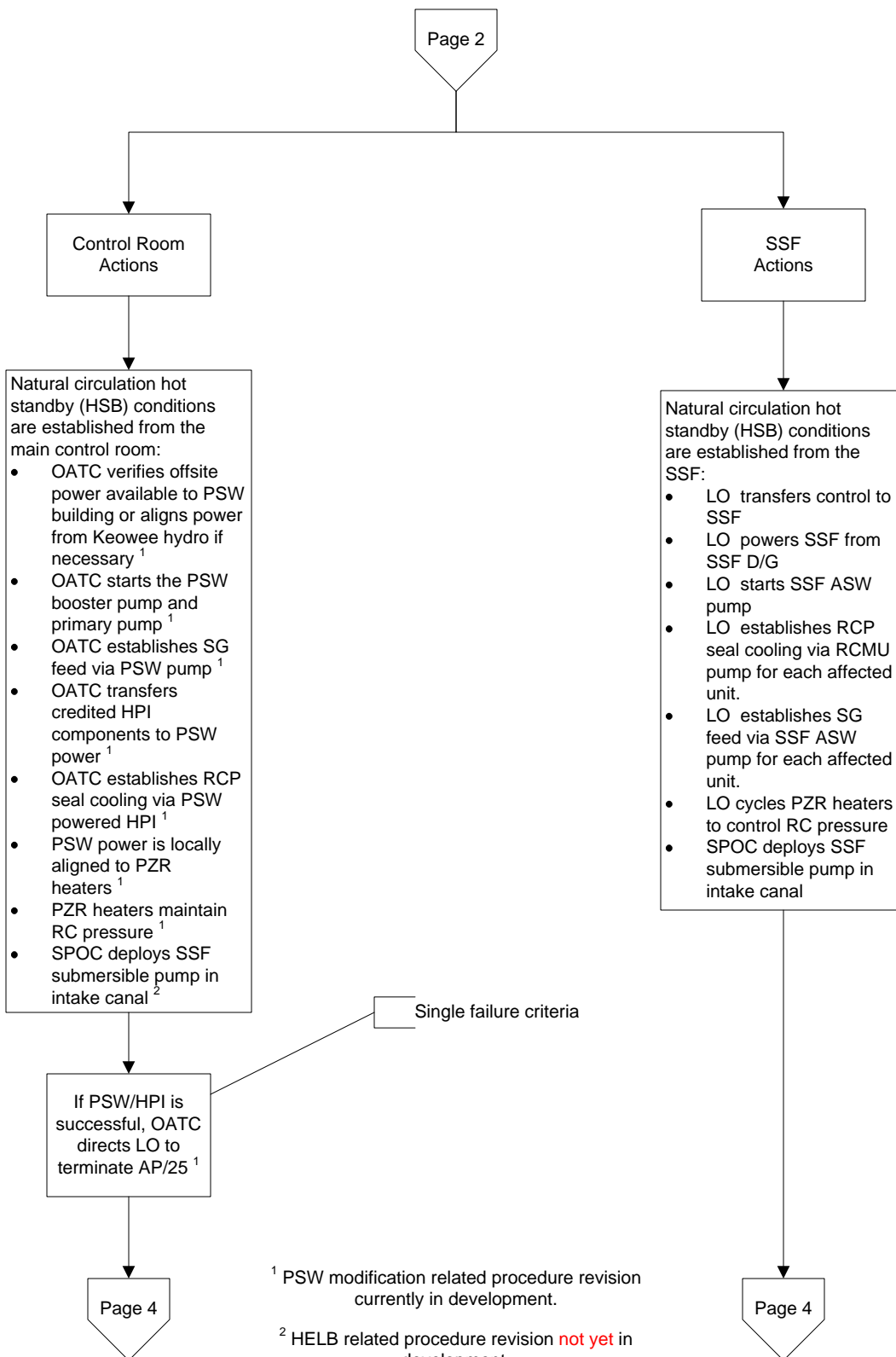
- Notes
- All units operating @ 100% prior to event
  - HELB committed plant modifications installed
  - Detailed flow charts provided on pages 2 - 4
  - Event timeline provided on page 5
  - Acronym definitions provided on page 6

### Turbine Building HELB Event Details

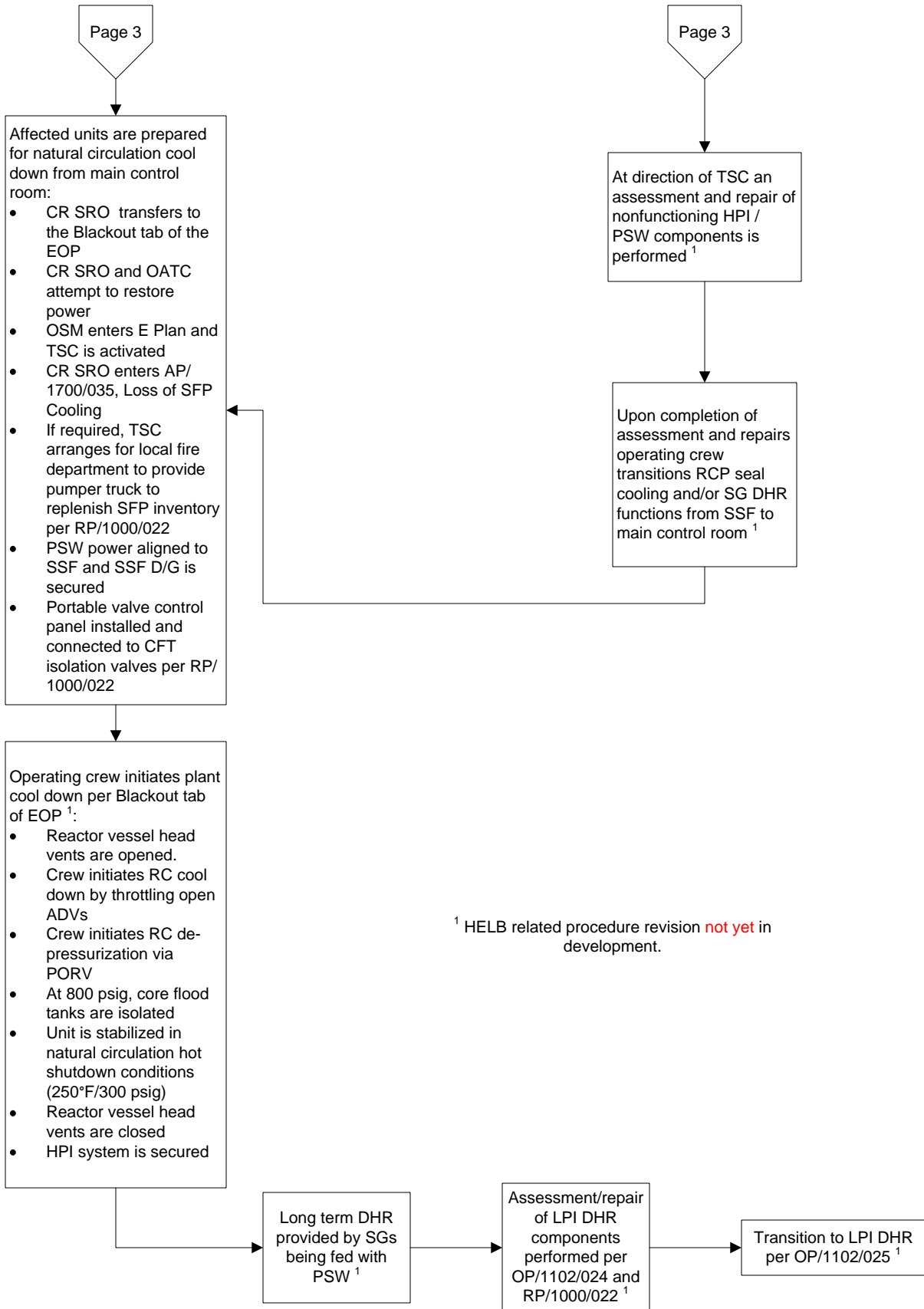


<sup>1</sup> PSW modification related procedure revision currently in development.

Turbine Building HELB Event Details



# Duke Energy / NRC Pre-submittal Meeting Turbine Building HELB Event Details



### Event Timeline

- T=0, Event Initiation (Loss of Function)
- T=14 min, SSF ASW flow established to SGs\*
- T=20 min, SSF RCMU flow established\*
- T=75 min, TSC activated
- T=1.75 hrs, Diversion of SSF D/G service water flow to yard initiated\*
- T=2.00 hrs, Diversion of SSF D/G service water flow to yard completed\*
- T=3hr 20 min, SSF submersible pump deployed\*
- T=36 hours, Maximum time to initiate replenishment of SFP
- T=72 hrs, Assessment/repairs needed to transition back to HPI/PSW completed
- T=72 hrs, Transition from hot standby to hot shutdown initiated

\* Previously established SSF activation times

Acronyms

- ADV – Atmospheric Dump Valve
- AP – Abnormal Procedure
- ASW – Auxiliary Service Water System
- CFT – Core Flood Tank
- CR SRO – Control Room SRO/Procedure Director
- D/G – Diesel Generator
- DHR – Decay Heat Removal
- E Plan – Emergency Plan
- EOP – Emergency Operating Procedure
- HELB – High Energy Line Break
- HPI – High Pressure Injection System
- HSB – Hot Standby
- IMAs – Immediate Manual Actions
- LO – Licensed RO or SRO
- LPI – Low Pressure Injection System
- MCR – Main Control Room
- OATC – Operator At The Controls Reactor Operator
- OSM – Operations Shift Manager
- PORV – Power Operated Relief Valve
- PSW – Protected Service Water System
- PZR – Pressurizer
- RC – Reactor Coolant
- RCMU – Reactor Coolant Make Up System
- RCP – Reactor Coolant Pump
- RO – Reactor Operator
- RP – Response Procedure
- SG – Steam Generator
- SPOC – Maintenance Single Point of Contact
- SFP – Spent Fuel Pool
- SRO – Senior Reactor Operator
- SSF – Standby Shutdown Facility
- TDEFDWP – Turbine Driven Emergency Feedwater Pump
- TSC – Technical Support Center