

15E ATWS Performance Evaluation

The information in this appendix of the reference ABWR DCD, including all subsections, tables, and figures, is incorporated by reference with the following departures.

STD DEP T1 3.4-1 (Figures 15E-1a, 15E-1b, 15E-1c)

STD DEP 16.3-83 (Figure 15E-1b)

STD DEP Admin (Figure 15E-1a, Figure 15E-1b)

15E.5 Selection of Events

STD DEP Admin

Category 1. Limiting Events

(3) *Loss of Feedwater*

This transient is less severe than the above two events. However, it is the only event which is mitigated by ARI, FMCRD run-in, or boron injection, initiated from the low level signals. Thus, this event is analyzed to show that the low level trips are capable to mitigate the event.

(4) *Loss of Feedwater Heater*

Category 2. Moderate Impact Events

(5) *Turbine Trip with Bypass Valves Open*

This transient usually produces higher neutron ~~flow~~ heat flux and vessel ~~pressure~~ than ~~those from the~~ MSIV closure event due to the fast closure of the turbine stop valves. However, the availability of the main condenser significantly reduces the amount of steam discharged into the suppression pool.

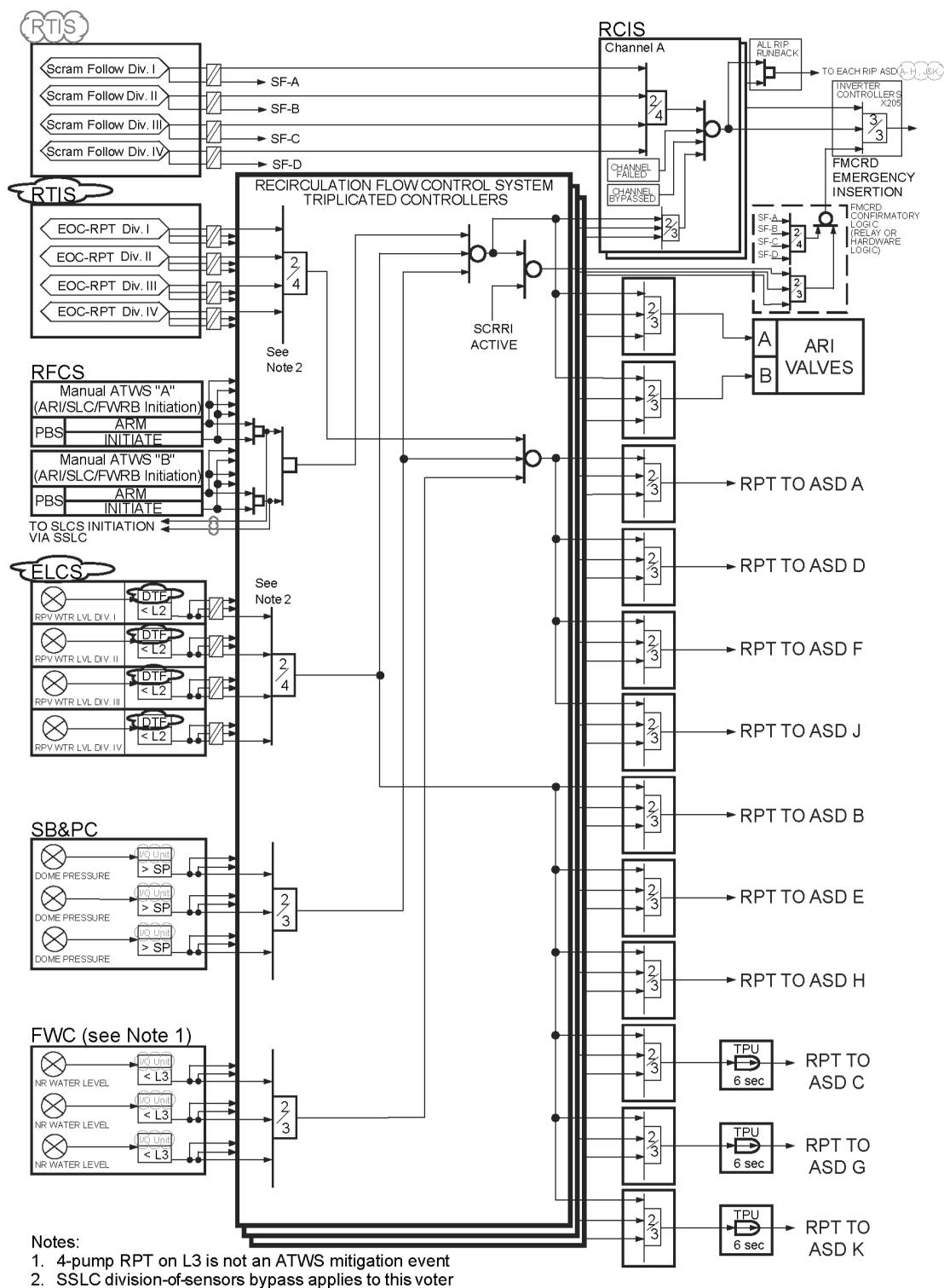
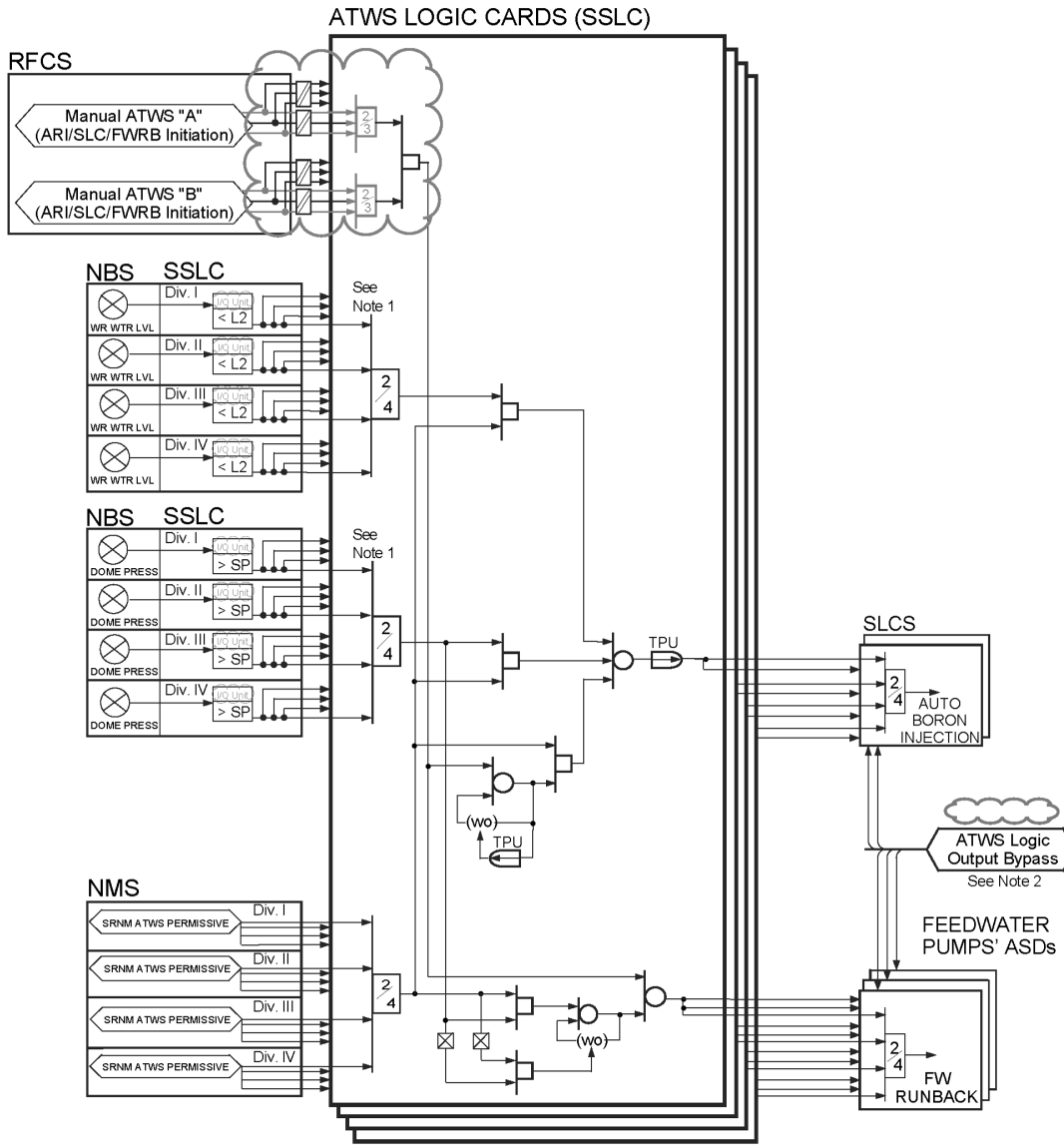
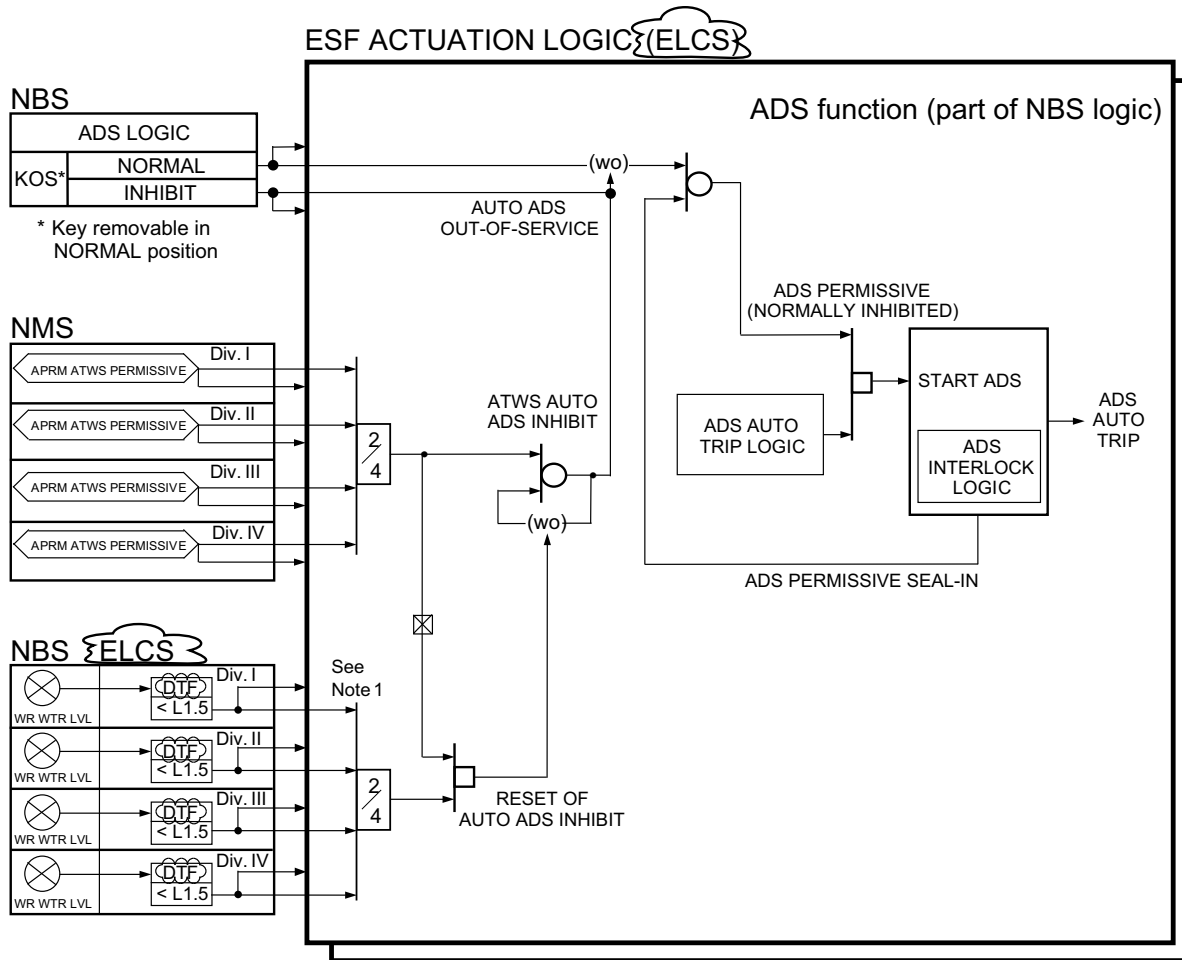


Figure 15E-1a ATWS Mitigation Logic (ARI, FMCRD Run-In, RPT, Manual Initiation)



- NOTES:
 1. SSLC DIVISION-OF-SENSORS BYPASS APPLIES TO THIS VOTER
 2. SAME ARRANGEMENT AS TPU OUTPUT LOGIC BYPASS BUT PERFORMED INDEPENDENTLY

Figure 15E-1b ATWS Mitigation Logic (SLCS Initiation, Feedwater Runback)



NOTES:
 1. ELCS DIVISION-OF-SENSORS BYPASS APPLIES TO THIS VOTER

Figure 15E-1c ATWS Mitigation Logic (SLCS Initiation, Feedwater Runback)