

DAEC-1

Temperature monitoring instrumentation is provided in the main steam line tunnel and turbine building to detect leaks in this area. Trips are provided on this instrumentation and when exceeded, cause closure of isolation valves. The setting is 200°F for the main steam line tunnel detector. For large breaks, the high steam flow instrumentation is a backup to the temperature instrumentation.

High radiation monitors in the main steam line tunnel have been provided to detect gross fuel failure as in the control rod drop accident. A trip setting of 3 times normal full-power background is established to close the main steam line drain valves, recirculation loop sample valves, and trip the Mechanical Vacuum Pump. For changes in the Hydrogen Water Chemistry hydrogen injection rate, the trip setpoint may be adjusted based on a calculated value of the radiation level expected. Hydrogen addition will result in an increase in the nitrogen (N-16) activity in the steam due to increased N-16 carryover in the main steam. Reference Subsection 15.4.7 of the Updated FSAR.

Pressure instrumentation is provided to close the main steam isolation valves in RUN Mode when the main steam line pressure drops below 850 psig. The Reactor Pressure Vessel thermal transient due to an inadvertent opening of the turbine bypass valves when not in the RUN Mode is less severe than the loss of feedwater analyzed in Subsection 15.6.3 of the Updated FSAR, therefore, closure of the Main Steam Isolation valves for thermal transient protection when not in RUN Mode is not required.