corresponding Bases Section B 3.1.7 in the Unit 1 and Unit 2 Technical Specifications.

Evaluation

Power uprate operation will result in a 30 psi increase in reactor operating pressure. As will be discussed in these proposed changes, several pressure-dependent setpoints (including safety relief valve [SRV] setpoints) will be increased to preserve current margins. Increasing the pressure 11 psi, at which a 41.2 gpm flow rate is developed, assures continued conformance to anticipated transient without scram (ATWS) criteria at uprated conditions. The surveillance test pressure is based on the maximum pressure for an ATWS event during the time period when the standby liquid control pump is in operation. Section 6.5 of NEDC–32405P discusses the capability of these positive displacement pumps. A small increase in the SRV setpoints will have no effect on the rated injection flow to the reactor. This change, therefore, will not increase the probability or consequences of a previously evaluated accident.

C. The reactor vessel steam dome high pressure allowable value for reactor protection system (RPS) instrumentation is increased 31 psi, consistent with the nominal pressure increase for power uprate. The allowable value appears in Section 3.3.1.1, Table 3.3.1.1–1, Function 3, in the Unit 1 and Unit 2 Technical Specifications.

Evaluation

The reactor vessel steam dome high pressure scram limit is increased because the steam dome operating pressure is increased. Operating pressure for uprated power is increased to assure that satisfactory reactor pressure control is maintained. The operating pressure was chosen on the basis of steam line pressure drop characteristics and the steam flow capability of the turbine. Satisfactory reactor pressure control requires an adequate flow margin between the uprated operating condition and the steam flow capability of the turbine control valves at their maximum stroke. An operating dome pressure of 1035 psig, which is 30 psi higher than the current operating dome pressure, is expected. Therefore, the high pressure scram is increased approximately the same amount to preserve existing margins to reactor trips.

The high pressure scram terminates a pressurization transient not terminated by direct scram or high neutron flux scram. The setting is maintained above the nominal reactor vessel operating pressure and below the specified analytical trip limit used in the safety analyses. The revised high pressure scram setpoint will preserve the hierarchy of pressure setpoints. This means that the high pressure scram setpoint will remain below the opening setpoint of the SRVs. The SRV nominal setpoints are also increased 30 psi, as discussed in Item G below. This hierarchy of setpoints provides assurance that the probability of opening more than one SRV without scram intervention is low.

Since the scram function and the current margins to trip avoidance are maintained with revised setpoints, there is no significant increase in the probability or consequences of an accident previously evaluated.

D. The ATWS reactor vessel steam dome high pressure recirculation pump trip (RPT) allowable value is raised 80 psi. The allowable value appears in Section 3.3.4.2, SR 3.3.4.2.3, in the Unit 1 and Unit 2 Technical Specifications.

Evaluation

The ATWS–RPT high pressure setpoint initiates a trip of the recirculation pumps, thereby adding negative reactivity following events in which a scram does not (but should) occur. Section 5.1.3.2 of NEDC–32405P discusses this function in detail.

The current analytical limit for the ATWS-RPT high pressure trip is 1150 psig. This value was increased 30 psi in the power uprate ATWS safety evaluations to account for the 30 psi increase in vessel operating pressure, SRV setpoints, etc. The current allowable value in the Technical Specifications is 1095 psig. This allowable value was not set by the current analytical limit, but by the range of the installed pressure instruments. As part of the power uprate plant changes, these pressure instruments will be replaced to accommodate higher pressure, and the allowable value, in conjunction with the analytical limit used in the safety analysis, will be increased.

Sections 5.1 and 9.3 of NEDC–32405P show the system can adequately perform its ATWS function with the new setpoint. Therefore, the proposed change does not cause a significant increase in the probability or consequences of an accident previously evaluated.

E. The low-low set (LLS) SRV arming pressure allowable value is increased 31 psi, consistent with the increase in operating pressure and high pressure scram allowable value. The LLS arming pressure allowable value appears in Section 3.3.6.3, Table 3.3.6.3–1, Function 1, in the Unit 1 and Unit 2 Technical Specifications.

Evaluation

The allowable value for the LLS SRV high pressure arming setpoint is increased because the high pressure scram setpoint is increased. No changes to the LLS arming logic associated with the SRV tailpipe pressure switches and the LLS opening and closing pressure setpoints are proposed.

The LLS relief logic mitigates the postulated containment loads of subsequent SRV actuations during small or intermediate loss of coolant accidents (LOCAs) by extending the time between actuations. The LLS logic requires two separate signals to arm itself for operation. Specifically, the LLS logic arms when an SRV opens (i.e., tailpipe pressure switch) and reactor pressure concurrently exceeds the scram setpoint. To preserve the hierarchy of pressure setpoints, the high pressure input to the LLS SRV arming logic has the same setpoint as the high pressure scram, thus minimizing the potential for a spurious SRV opening through the LLS logic without occurrence of a reactor scram.

Increasing the arming setpoint is consistent with increasing the high pressure scram setpoint and will not increase the probability or consequences of an accident previously evaluated.

F. Lower the permissible rod line for single-loop operation (SLO) below 45 percent core flow from the 80 percent rod line to the 76 percent rod line. This Technical Specifications limit appears in Section 3.4.1 (Figure 3.4.1–1) and the corresponding Bases Section B 3.4.1 of the Unit 1 and Unit 2 Technical Specifications.

Evaluation

During development of the generic power uprate program, GE and the NRC agreed to maintain the current exclusion region in the power-to-flow map related to thermal-hydraulic stability. The current limit for SLO is the 80 percent rod line. Power uprate will redefine 100 percent rated power and, therefore, rated rod or flow control lines. The 76 percent rod line at uprated conditions closely corresponds on an absolute, rather than percentage basis, to the existing 80 percent rod line.

Therefore, this proposed Technical Specifications change ensures that power uprate operation will not cause a significant increase in the probability or consequences of accident previously evaluated.

G. The SRV lift setpoints in the Units 1 and 2 Technical Specifications SR 3.4.3.1 will be increased 30 psi.

Evaluation

The SRVs are designed to prevent overpressurization of the reactor pressure vessel during abnormal operational transients. The SRV lift setpoints are increased to accommodate the increase in operating pressure that accompanies power uprate. The increase in SRV setpoints ensures that adequate margins are maintained so that the increase in dome pressure during normal operation does not result in an increase in the number of unnecessary SRV actuations. The setpoint increase also maintains the hierarchy of pressure setpoints described in these proposed changes. Transient evaluations include a +3 percent tolerance to the nominal setpoints. As described in Section 3.2 of NEDC–32405P, peak vessel pressure increases by 3 percent, but remains well below the 1375 psig ASME Code limit.

Although not credited in the transient analysis, GPC installed a pressure transmitter system which can electronically actuate the SRVs on high vessel pressure. The nominal trip setpoints for its actuation correspond with the nominal mechanical lift setpoints in the Technical Specifications. The SRV pressure transmitter system nominal setpoints will also be increased 30 psi.

General Electric generically evaluated the adequacy of BWR SRVs to operate at uprated temperatures and pressures. The reactor operating pressure and temperature increases of less than 40 psi and 5°F, respectively, used in that evaluation bound the uprated Hatch operating conditions.

The impact of power uprate on the Hatch containment dynamic loads due to SRV discharge has also been evaluated. As discussed in Section 4.1.2 of NEDC–32405P, the vent thrust loads with power uprate were calculated to be less than the loads used in the containment analysis. The effects of power uprate on SRV air-clearing, the