April 14, 2006

Technical Specifications Task Force
11921 Rockville Pike, Suite 100
Rockville, MD 20852

SUBJECT: STATUS OF TSTF 465, “ADDITION OF TIME PERFORMANCE SURVEILLANCE REQUIREMENT (SR) NOTE TO SOURCE RANGE MONITOR (SRM) SRS"

Technical Specification Task Force Traveler (TSTF) 465, Revision 0, "Addition of Time Performance Surveillance Requirement (SR) Note to Source Range Monitor (SRM) SRs" dated June 20, 2005, proposed the addition of time delay notes for performing channel check (SR 3.3.1.2.3) and source range count rate verification (SR 3.3.1.2.4) surveillance requirements for operation in hot shutdown (MODE 3) and in cold shutdown (MODE 4). The changes to SR 3.3.1.2.3 and SR 3.3.1.2.4 proposed by the Traveler are not acceptable to the NRC Staff as written. The purpose of this letter is to document the NRC Staff’s evaluation of the Traveler.

Background

The SRMs provide the operator with information relative to the neutron flux level at very low flux levels in the core. During refueling, shutdown, and low power operations, the primary indication of neutron flux levels is provided by the SRMs. The SRMs have no safety function and are not assumed to function during any FSAR design basis accident or transient analysis. However, the SRMs provide the only on scale monitoring of neutron flux levels during startup and refueling. Therefore, the SRMs are retained in Technical Specifications.

Standard Technical Specification SR 3.3.1.2.3 (performance of the CHANNEL CHECK) ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on another channel. SR 3.3.2.1.4 consists of a verification of the SRM instrument readout to ensure that the SRM reading is greater than a specified minimum count rate, which ensures that the detectors are indicating count rates indicative of neutron flux levels within the core.

Discussion

A mode change from power operation (MODE 1) to a reactor shutdown (entry into MODE 3) results in SRM SRs 3.3.1.2.3 and SR 3.3.1.2.4 not being within their required Frequency, regardless whether this change results from a controlled evolution or from a reactor scram. Precautions to operators would note that SRMs are considered inoperable, requiring an entry into LCO 3.3.1.2 until proven operable. This precaution is needed because SRMs are required to be operable in the shutdown and refueling modes, but not in the power operation modes. Furthermore, it is SRM applicability requirements and the inability to perform TS surveillances until the SRMs are reinserted into the core that results in the SRM instrument channels being inoperable upon transition from power operation to shutdown.

To prove MODE 3 SRM channel operability, TS 3.3.1.2 surveillance requirements SR 3.3.1.2.3 (Channel Check), SR 3.3.1.2.4 (count rate), SR 3.3.1.2.6 (Channel Functional Test) and SR 3.3.1.2.7 (Channel Calibration) must be performed and met. Current STS permit a 12-hour delay to perform the Channel Calibration and Functional Test surveillance requirements; however, there is no delay permitted for the Channel Check or count rate testing. The current STS require that within one hour the reactor operator must fully insert all control rods and place the reactor mode switch in the shutdown position. These actions must be met until the required SRMs are proven operable.

Evaluation

TSTF-465 seeks TS SR allowances to delay performing required SRs 3.3.1.2.3 and 3.3.1.2.4. The Traveler states that having SR 3.3.1.2.3 or SR 3.3.1.2.4 out of periodicity results in the immediate entry into SR 3.0.3 for the SRMs due to SRs not being within the required Frequency. SR 3.0.3 permits up to a 24-hour delay for performance of "missed surveillances" (emphasis added). Standard TS Bases state that the provisions of SR 3.0.3 apply to Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions (emphasis added). The traveler discussion for change states that "in STS, it is atypical to have a forced entry into SR 3.0.3 due to an anticipated operational occurrence (in this case, a scram) and the situation presents a administrative distraction to Operators involved in scram recovery activities," and that "the addition of a 12-hour time allowance note is conservative with respect to the 24-hour time allowance provided by invocation of SR 3.0.3."

The NRC Staff does not share the TSTF position that the change in operability status of the SRMs is as a matter of procedural or administrative concern as a result of a sudden entry into MODE 3, and that the sudden entry into MODE 3 results in the application of SR 3.0.3. The NRC Staff views the time period from the scram until the SRMs are proven operable to be a period of noncompliance with TS 3.3.1.2 resulting in the application of LCO 3.0.2 rather than a matter of procedural or administrative concern resulting in the application of SR 3.0.3. This position is also consistent with the NRC Staff recent guidance provided in RIS 2005-20, "Operability Determinations and Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," that there is no such thing as an indeterminate state of operability; a structure, system or component is either operable or inoperable.

It is important to note that TS 3.3.1.2 has a unique set of required actions for MODE 3 when sudden entry into MODE 3 is made with the surveillances not met. This occurs as a result of how mode changes are made for BWR plants. Entry into MODE 3 from MODE 1 or MODE 2 requires placing the reactor mode switch in the "shutdown" position, which results in a scram causing all control rods to insert. TS 3.3.1.2 MODE 3 Required Actions (place the reactor mode switch in the shutdown position and fully insert all insertable control rods) are met when the mode switch is placed in the shutdown position whether this results from an operational occurrence (i.e., a scram) or if it is imposed by Required Actions. These requirements apply until the detectors are reinserted, and the specified minimum count rate is established to ensure that the detectors are indicating count rates indicative of neutron flux levels within the core. The NRC staff position ensures that further changes to control rods positions or reactor modes would not occur and surveillances SR 3.3.1.2.3 and SR 3.3.1.2.4 would be performed without delay.

Further, the NRC Staff confirms the TS allowance to delay performing SR 3.3.1.2.6 (Channel Functional Test) and SR 3.3.1.2.7 (Channel Calibration) as an appropriate allowance to permit inserting SRM detectors and ensuring core flux levels are monitored before channel calibration testing commences.

In addition, the NRC Staff notes that Traveler discussion does not evaluate use of the time delay note in conjunction with TS Special Operations test exceptions. Special Operations 3.10.2, Reactor Mode Switch Interlock Testing and 3.10.3, Single Control Rod Withdrawal - Hot Shutdown, permit disabling the mode switch interlocks by allowing the mode switch to be in a position other than shutdown. If it is possible to perform these operations during the time delay period of the SRM note, then core reactivity changes could occur with no indication of core neutron flux levels. The procedural priority for operators upon entering MODE 3 from a scram should be to establish operability of the SRMs to provide the only on scale monitoring of neutron flux levels. The NRC Staff would consider some small time delay to perform SR 3.3.1.2.3 and SR 3.3.1.2.4 if it can be demonstrated based on an operational necessity.

Sincerely,

***/RA/***

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