

of the CLIP for proposed changes to the required actions and completion times for inoperable SDV vent and drain valves at BWRs.

TSTF-404, as well as the NRC staff's SE and model application, may be examined, and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, Public File Area 01 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agency wide Documents Access and Management System's (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

The staff received only informal comments regarding typographical and editorial errors in the model SE and NSHC determination. A specific change involves correcting the abbreviation for scram discharge volume in the model SE and NSHC determination (from S.V. to SDV). Licensees may reference in their plant-specific applications the corrected SE, NSHC determination, and environmental assessment provided below.

#### **U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation**

##### *Model Safety Evaluation—Consolidated Line Item Improvement Technical Specifications Task Force (TSTF) Change TSTF-404, Scram Discharge Volume Vent and Drain Valves*

#### **1.0 Introduction**

By application dated [ ], [Licensee] (the licensee) requested changes to the Technical Specifications (TSs) for [facility]. The proposed changes would revise the required action within TS [3.1.8, "Scram Discharge Volume (SDV) Vent and Drain Valves"] for the condition of having one or more SDV vent or drain lines with one valve inoperable. These changes are based on Technical Specifications Task Force (TSTF) change traveler TSTF-404 (Revision 0) that has been approved generically for the BWR [boiling water reactor]/4[6] Standard Technical Specifications (STS), NUREG-1433 [1434], Revision 2. A notice announcing the availability of this proposed TS change using the consolidated line item improvement process (CLIP) was published in the **Federal Register** on [ ] (68 FR yyyy).

#### **2.0 Regulatory Evaluation**

NRC regulations and review standards such as Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50 of Title 10 of the *Code of Federal Regulations*

(10 CFR), include specific requirements for reactor protection and reactivity control systems. The reactor protection systems for BWRs use a hydraulic system to insert control rods into the reactor core. During an actuation of the reactor protection system (a scram), water is exhausted from the control rod drive mechanisms to the SDVs. Proper maintenance and operation of the SDVs in terms of instrumentation and limiting water volumes are essential for assuring the reliability of the reactor protection system (see NRC Bulletin 80-17, "Failure of Control Rods to Insert During A Scram at a BWR," related Orders to specific facilities, and information provided in plant final safety analysis reports and TS Bases). Maintaining the SDVs to ensure that accumulated water does not hamper or slow the insertion of control rods requires vent and drain valves. The vent and drain valves isolate during a scram to limit the amount of coolant discharged so that adequate core cooling is maintained and offsite doses remain within regulatory limits.

Specific regulatory requirements for SDV vent and drain valves are defined in TS [3.1.8, "Scram Discharge Volume (SDV) Vent and Drain Valves."] The existing limiting condition for operation [3.1.8], requires that each SDV vent and drain valve be operable. The operability of all SDV vent and drain valves ensures that the SDV vent and drain valves will close during a scram to contain reactor water discharged to the SDV piping. Since the vent and drain lines are provided with two valves in series, the single failure of one valve in the open position will not impair the isolation function of the system. Additionally, the valves are required to open on scram reset and during plant operation to control the amount of water accumulating in the SDV

If one or more SDV vent and drain lines have a single valve that is inoperable, the existing required action is to restore the valve(s) to operable status within 7 days. If an inoperable valve is not restored to operable status, a plant shutdown to MODE 3 is required within 12 hours. If one or more SDV vent or drain lines have both valves inoperable, the associated line must be isolated within 8 hours. In this condition, the plant is allowed to operate indefinitely. A note associated

with the required action clarifies that the valves may be opened under administrative controls to allow draining of the SDV. The existing SDV vent and drain valve required actions are inconsistent in that, although the operational and safety concerns are similar for having one or both valves in a line being inoperable, the actions for a single inoperable valve do not allow for the isolation of the line and administrative controls to support the draining of the SDV.

The proposed change would revise the required actions to be more consistent with the safety significance of one inoperable valve in a SDV line versus two inoperable valves in an SDV line.

#### **3.0 Technical Evaluation**

The proposed changes to TS 3.1.8 are:

1. Required Action A.1 is revised from restoring the single inoperable SDV vent and drain valve in one or more SDV vent and drain lines to operable status to isolating the associated line.

2. The Note to Required Action B.1 which allows an isolated line to be unisolated under administrative controls for the purpose of draining and venting the SDV is moved to a note that applies to both Conditions A (single inoperable valve) and B (both valves inoperable).

With one SDV vent or drain valve inoperable in one or more lines, the isolation function would be maintained since the redundant valve in the affected line would perform its safety function of isolating the SDV. The current ACTION statement allows 7 days to repair the inoperable valve; the proposed change is to allow for the isolation of the affected line and continue operation. If the affected line is not isolated within the 7-day time period (or the inoperable valve is not restored), the licensee would then be required to proceed to MODE 3 in the next 12 hours. Maintaining the 7-day Completion Time is acceptable because of the low probability of the concurrent events of a scram within the 7 days of the Completion Time and a failure of the redundant valve(s). Alternately, if the inoperable valve was initially closed, there would be ample time and warning available to drain the SDV before an automatic scram would occur due to SDV high level.

The allowance to administratively open a line that is isolated to comply with the actions (to permit draining and venting the SDV) is allowed by existing Required Action B.1. This allowance is being moved to apply to all ACTIONS based on the change proposed to Action A. This would allow any accumulated