DRAFT PROPOSED CRITERIA FOR OPDRV ENFORCEMENT DISCRETION

The technical specifications (TSs) term, Operations with a Potential for Draining the Reactor Vessel (OPDRV) is an undefined term used to specify when limiting conditions for operation must be met for certain TSs. Because OPDRV is undefined in TSs, licensees must implement their TSs using the plain language context of the OPDRV words. Thus, the NRC Staff believes that an OPDRV is any activity that could result in draining or siphoning the reactor pressure vessel water level below the top of fuel, without crediting mitigating measures to terminate or prevent water inventory losses.

As an outcome of an assessment of operating events involving reactor loss of inventory events, the NRC staff recognizes that different OPDRVs present different levels of risk to the plant. Accordingly, the staff is considering an improvement to the Standard Tech Specs that will allow a graded approach to OPDRV requirements. While this improvement is under development, the staff will consider granting enforcement discretion to allow OPDRVs to be conducted without secondary containment requirements fully established provided that the following criteria are met:

1. An Operation with a Potential for Draining the Reactor Vessel (OPDRV) shall constitute any activity that could result in draining or siphoning the reactor pressure vessel water level below the top of fuel, without allowing for mitigating measures.

2. Water Inventory Requirements
    a. OPDRV activities shall be conducted with:
        i. spent fuel storage pool gates removed and water level $\geq$ [23 ft] over the top of the reactor pressure vessel flange [BWR/4].
        ii. the upper containment [cavity to dryer] pool [gate] removed and water level $\geq$ [23 feet] over the top of the reactor pressure vessel flange [BWR/6].

    b. During OPDRV activities at least one safety related pump shall be aligned to a makeup water source with the capability to automatically inject water equal to or greater than the maximum potential leakage rate from the reactor pressure vessel (RPV) for a minimum time period of 4 hours. OPDRV activities shall immediately be suspended if at any time this inventory makeup capability is lost.

3. Secondary Containment Requirements
    a. The licensee shall be able to establish secondary containment before water inventory drains down to the top of the RPV flange. For activities where the time to drain down to the top of the RPV flange could be less than 72 hours at the maximum predicted leak rate, secondary containment integrity shall be maintained at all times during the OPDRV activity.
    b. Automatic containment isolation, as required by Tech Specs, shall be operable during the conduct of any OPDRVs.

4. OPDRV activities shall, to the maximum extent practicable, be performed in a manner that maintains defense-in-depth against the release of fission product inventory. In addition to the water inventory and secondary containment requirements described above, the following limitations shall be followed:
    a. Movement of irradiated fuel shall be prohibited during OPDRVs.
    b. Not more than a single potential leakage path shall be permitted during OPDRVs.
    c. Capability to isolate the potential leakage path during OPDRVs shall be maintained.
    d. There shall be at a minimum two RPV level indicators, at least one of which is a continuous automatic alarming indicator, for identifying the onset of loss of inventory events. Procedures should be established to ensure that a draining event is detected with sufficient time to establish secondary containment prior to reaching the top of the vessel flange.

5. If any of the following LCOs are not met, suspend OPDRV operations immediately.
    i. Primary Containment Isolation Instrumentation (Section 3.3.6.1 [BWR/6])
    ii. Secondary Containment Isolation Instrumentation (Section 3.3.6.2 [BWR/4 & BWR/6].
    iii. Main Control Room Environmental Control System Instrumentation (Section 3.3.7.1 [BWR/4]); Control Room Fresh Air System Instrumentation (Section 3.3.7.1 [BWR/6]).
    iv. Primary Containment Isolation Valves (Section 3.6.1 [BWR/6])
    v. Secondary Containment Isolation Valves (Section 3.6.4.2)
    vi. Standby Gas Treatment System (Section 3.6.4.3)
    vii. Main Control Room Environmental Control System (Section 3.7.4 [BWR/4]); Control Room Fresh Air System (Section 3.7.3 [BWR/6]) and Control Room Air Conditioning Systems (Section 3.7.5 [BWR/4]; Section 3.7.4 [BWR/6])
    viii. AC Sources - Shutdown LCO (Section 3.8.2 [BWR/4] and 3.8.5 [BWR/6]),
    ix. DC Sources – Shutdown (Section 3.8.5), or
    x. Inverters (Section 3.8.8)
    xi. Distribution Systems - Shutdown (Section 3.8.10)