

success probability for the recovery actions involves a certain degree of subjectivity. The concerns in this case stem from situations where very high success probabilities are assigned to a sequence, resulting in related components being ranked as low risk contributors. Furthermore, it is not desirable for the categorization of SSCs to be impacted by recovery actions that sometimes are only modeled for the dominant scenarios. Sensitivity analyses should be used to show how the SSC categorization would change if recovery actions were removed. The IDP should ensure that the categorization is not unduly impacted by the modeling of recovery actions.

(3) CCFs are modeled in PRAs to account for dependent failures of redundant components within a system. CCF probabilities can impact PRA results by enhancing or obscuring the importance of components. A component may be ranked as a high risk contributor mainly because of its contribution to CCFs, or a component may be ranked as a low risk contributor mainly because it has negligible or no contribution to CCFs. The IDP should ensure that the categorization is not unduly impacted by the modeling of CCFs. The IDP should also be aware that removing or relaxing requirements may increase the CCF contribution, thereby changing the risk impact of an SSC.

V.4.2 Section 50.69(c)(1)(ii) Integrated Assessment of SSC Function Importance

Section 50.69(c)(1)(ii) contains requirements for an integrated, systematic process to address events including those not modeled in the PRA, including both design basis and severe accident functions. For various reasons, many SSCs in the plant will not be modeled explicitly in the PRA. Therefore, the categorization process must determine the safety significance of these SSCs by other means, as discussed below. Because importance measures are not available for use as screening, other criteria or considerations must be used by the IDP to determine the significance. To provide the necessary structure, the Commission is setting forth guidance on how these deliberations should be conducted; this information will also be included in the regulatory guidance for this proposed rule. These considerations were selected based upon NRC experience about what functions are important to prevention of core damage or large early release.

The proposed rule would also include requirements that all aspects of the processes used to categorize SSC must reasonably reflect the current plant

configuration, operating practices and applicable operating experience. The terminology of "reasonably reflect" was selected to allow for appropriate PRA modeling and also to make clear that the PRA and processes do not need to be instantaneously revised when a plant change occurs (see also requirements in § 50.69(e)(1) on PRA updating).

V.4.2.1 Initiating Events and Plant Operating Modes Not Modeled in the PRA

When initiating events with frequencies of greater than 10^{-6} per year are not modeled in the PRA, or when the low power and shutdown plant operating modes are not modeled in the PRA, other means are needed to determine the safety significance to meet § 50.69(c)(1). The proposed implementation guidance contains information about how this can be accomplished by the IDP assessments. The licensee should demonstrate that the relaxation of regulatory requirements will not unacceptably degrade plant response capability and will not introduce risk vulnerabilities for the unmodeled initiating events or plant operating modes. For these unmodeled events, the IDP assessment should consider whether an SSC has an impact on the plant's capability to:

- (1) Prevent or mitigate accident conditions,
- (2) Reach and/or maintain safe shutdown conditions,
- (3) Preserve the reactor coolant system pressure boundary integrity,
- (4) Maintain containment integrity, or
- (5) Allow monitoring of post-accident conditions.

In determining the importance of SSCs for each of these functions, the following factors should be considered:

- Safety function being satisfied by SSC operation
- Level of redundancy existing at the plant to fulfill the SSC's function
- Ability to recover from a failure of the SSC
- Performance history of the SSC
- Use of the SSC in the Emergency Operating Procedures or Severe Accident Management Guidelines

The licensee or applicant (through the IDP) must document the basis for the assignment of an SSC as RISC-3 based on the above considerations. Insights and results from risk assessment and risk management methodologies (for example the fire and external events screening methodologies, the seismic margins analyses, or the shutdown safety management models) may be used to help form this basis.

V.4.2.2 SSCs Not Modeled in the PRA

In addition to being safety-significant in terms of their contribution to CDF or LERF, SSCs can also be safety-significant in terms of other risk metrics or conditions. Therefore, for SSCs not modeled explicitly in the PRA, the IDP should verify low safety significance based on traditional engineering analyses and insights, operational experience, and information from licensing basis documents and design basis accident analyses. The IDP should assess the safety significance of these SSCs by determining if:

(1) Failure of the SSC will significantly increase the frequency of an initiating event, including those initiating events originally screened out in the PRA.

(2) Failure of the SSC will compromise the integrity of the reactor coolant pressure boundary. It is expected that a sufficiently robust categorization process would result in the reactor coolant pressure boundary being categorized as RISC-1.

(3) Failure of the SSC will fail a safety-significant function, including SSCs that are assumed to be inherently reliable in the PRA (e.g., piping and tanks) and those that may not be explicitly modeled (e.g., room cooling systems, and instrumentation and control systems). For example, it is expected for PWRs that a sufficiently robust categorization process would categorize high energy ASME Section III Class 2 piping of the main steam and feedwater systems as RISC-1.

(4) The SSC supports important operator actions required to mitigate an accident, including the operator actions taken credit for in the PRA.

(5) Failure of the SSC will result in failure of safety-significant SSCs (e.g., through spatial interactions or through functional reliance on another SSC).

(6) Failure of the SSC will impact the plant's capability to reach and/or maintain safe shutdown conditions.

(7) The SSC is one of a redundant set that can be justifiably identified as a common cause failure group.

(8) The SSC is a part of a system that acts as a barrier to fission product release during severe accidents. It is expected that a sufficiently robust categorization process would result in fission product barriers (e.g., the containment shell or liner) being categorized as RISC-1.

(9) The SSC is depended upon in the Emergency Operating Procedures or the Severe Accident Management Guidelines.

(10) Failure of the SSC will result in unintentional releases of radioactive