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General Comment

Attached file is a suggested re-write of Section 4, Radiological Assessment Based PAR starting on page 12 of Supplement 3. The intent is to provide more specific guidance on what conditions should be considered before using a dose assessment based PAR in place of a Fission Product Barrier based PAR. In any case, a paragraph is suggested that discusses the expectation that the PAR development process should also be discussed and understood by EPZ Offsite Response Organizations and specific site characteristics should be considered in PAR procedure development.

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(RXS2)*

4. RADIOLOGICAL ASSESSMENT BASED PAR

The Emergency Action Level (EAL) system used at nuclear power plants is designed to be anticipatory, in that a General Emergency is expected to be declared, based on plant conditions before a radiological release could potentially begin. The NRC expects that licensees will perform radiological assessments throughout the emergency and notify OROs of the need to take or expand protective actions where dose projections show that protective action criteria could be exceeded. Dose projections based on effluent monitor data and verified by field monitoring data would be the strongest basis for a PAR, but effluent monitor data alone can be sufficient where other data (e.g., plant conditions, area or process monitors) verify that a radiological release is occurring. Although verification of dose projection data is desirable, PARs should not be delayed unduly while awaiting field monitoring data or sample analysis.

A more difficult case for dose assessment is a scenario with a large radiological source term in containment (loss of fuel barrier) and a leak rate at or near the design basis (loss of the RCS) and the containment is being challenged (potential loss of the primary containment). This is clearly a General Emergency and initial PARs are expected based on fission product barrier considerations. As subsequent PARs are implemented, the issue of expansion of protective actions beyond the 5-mile (8-kilometer) downwind sectors can arise. When expansion of a PAR is considered under this scenario, the condition of containment must be continuously assessed, and the licensee should provide OROs with the best available information to inform decision-making. Additionally, changes in wind direction may indicate that if a release begins, it would affect different downwind sectors. Where there is reason to believe that containment loss (versus "potential loss" is imminent, then expansion of PARs should be pursued based on Loss of all 3 Fission Product Barriers. However, the more likely case is that containment will hold and the accident will be mitigated, as occurred during the 1979 Three Mile Island accident.

Finally, if in the conditions of a Loss of all 3 Fission Product Barriers, radiological assessment shows an ongoing release and the containment source term is not sufficient to cause exposures in excess of EPA protective action guidelines, it may be inappropriate for licensees to expand PARs based only on changes in wind direction. For changes in wind direction after an initial PAR has already been provided to OROs, using dose assessment results to override PARs based on a loss of all Fission Product Barriers requires careful review and analysis to ensure the best available PAR is provided to OROs. If a wind shift occurs the utility must fully understand (within the 15 minute assessment window) the below information to override a barrier based PAR:

- ▶ Is source term stable (little or no potential for fuel damage to increase)?
- ▶ Is RCS leak path understood and stable (little or no potential for RCS leak to increase)?
- ▶ Is Containment failure pathway understood (filtered, non-filtered, monitored with little or no potential for Release Rate to increase)?
- ▶ Are new Meteorological Conditions stable and understood (new direction, speed, and stability class known and stable with little or no potential for change expected within the next 30 minutes)?
- ▶ Does the ED have a high confidence in Dose Assessment Projections based on good correlation between dose assessment results and field team reading reviewed prior to the wind shift?

If all of the above criteria are met and fully understood, then any changes to PARs provided to the OROs should not be based on default fission product barrier based PARs and should be based on dose assessment results and the impact on EPA PAGs in the new affected areas.

(sectors). Any upgrade of the existing PAR needs to include the information from the initial PAR as well as any new areas that the utility is recommending additional protective actions.

If any of the above criteria is not met or is not fully understood, then provide the OROs with an upgraded PAR based on the Loss of All 3 Fission Product Barriers and the new affected areas (sectors). Affected areas (compass sectors) that fall between the original downwind sector and the new downwind sector should be considered for inclusion in the new upgraded PAR as the existing plume may swipe over these sectors.

The process to select and provide a Barrier Based PARs as well as Dose Assessment Based PARs at the onset of a General Emergency, a PAR upgrade based on changing plant conditions, or a PAR upgrade based on wind shifting should be discussed and understood by OROs within the plume EPZ. Local considerations such as ETE, population in affected EPZs, local law enforcement considerations, natural obstructions, etc. need to be considered when making plans or procedures for PAR development. The above generic guidance may be altered based on utility and ORO joint concurrence on what is the correct course of action for their residents.