

Summary of Observations

Temporary Instruction 2515/183, “Followup to the Fukushima Daiichi Fuel Damage Event”

Summary of Observations:

The following are some general observations made during the performance of TI 2515/183. While individually, none of these observations posed a significant safety issue, they indicate a potential industry trend of failure to maintain equipment and strategies required to mitigate some design and beyond design basis events.

Nuclear plants have multiple, redundant, strategies for which the overall function is to mitigate damage to the facility’s fuel elements and containment. The failure of a strategy due to equipment failure, procedure inadequacy, inadequate training, etc., does not mean that the other redundant strategies would not have successfully performed their function. During this inspection, while some deficiencies were identified that would have caused a single strategy to be compromised or fail, no functions were compromised that would have resulted in damage to the fuel elements or containment.

The results of the inspections are being assessed in greater detail through the NRC’s Reactor Oversight Process and will also be examined by the NRC’s Task Force’s examining the agency’s regulatory requirements, programs, processes, and implementation in light of information from the Fukushima Daiichi event.

Licensee Capability to Mitigate Fires in Large Areas of the Plant in accordance with 10 CFR 50.54(hh)(2)

- Some equipment (mainly pumps) would not operate when tested or lacked test acceptance criteria
- Some equipment was missing or dedicated to other plant operations
- In some cases plant modifications had rendered strategies unworkable
- Fuel for pumps was not always readily available

Licensee Capability to Mitigate Station Blackout (SBO) Conditions

- In a few cases procedural or training deficiencies existed.

Licensee Capability to Mitigate Design Basis Internal and External Events

- Some equipment (mainly pumps) would not operate when tested or lacked test acceptance criteria
- Some discrepancies were identified with barrier and penetration seals

Licensee Capability to Respond to Beyond Basis Events involving Fires, Floods, and Seismic Events

- Some equipment to mitigate fires and SBO was stored in areas that were not seismically qualified or could be flooded

Matrix of Observations by Facility:

The attached matrix is a per-site summary of observations associated with TI 2515/183. The matrix was developed to provide NRC and external stakeholders with a quick method to review the observations, however, the matrix is not an in-depth assessment of the findings. As noted above, NRC is currently performing a thorough assessment of the identified issues to provide to the Task Force with insights on the U.S. nuclear industry's readiness to cope with beyond design basis events.

Using the Matrix:

While the TI was not designed to ask "yes/no" questions, the matrix provides basic answers in this way to help guide the user to information regarding a facility that they may be interested in. The inspection reports should be reviewed for additional information on the observation.