

SUMMARY

NextEra with the assistance of the PWR Owner's Group has reviewed the NRC preliminary assessment and would like to provide industry insights. The high wind event was successfully handled by the operations team per existing governing operating procedures and should be included as an operating experience for the nuclear plants. The initial risk assessment that was performed by the NRC as part of the Accident Sequence Precursor program identified that the Derecho event of August 10th meets the criteria to be considered a Significant Accident Sequence Precursor. The NRC's preliminary risk assessment was based on very conservative assumptions. The following are the key points that should be considered in this risk evaluation:

- No credit was given for restoration of offsite power which was available from offsite sources at 22.6 hours from the start of the event,
- Includes conservative failure rates for the emergency diesel generators,
- Includes conservative modeling of run failures in the significant core damage sequences.

A revised risk assessment with updated current industry data for these scenarios will result in lower risk significance below the threshold of what is a significant accident precursor.

OFFSITE POWER RECOVERY CREDIT

The preliminary risk assessment used the timeline that was developed for the Licensee Event Report to note that power was not restored to the safety buses from an offsite power source until twenty-five hours after the Loss of Offsite Power (LOOP) occurred¹. However, the Vinton 161kV line was restored as a power source at 11:26. As the plant was in a safe and stable configuration the ensuing period was taken up with coordinating a deliberate and uninterrupted transfer of power from the Emergency Diesel Generators to the offsite power supply. Had an Emergency Diesel Generator failed at any point after 11:26, offsite power was available to re-energize emergency busses. Therefore, offsite power was available to be restored to the safety buses approximately 22.6 hours after the event started and not 25 hours.

CONSERVATIVE DIESEL GENERATOR FAILURE RATES

The NRC Standardized Plant Analysis Risk (SPAR) model that was used to determine the risk utilizes generic data out of the NRC Reactor Operating Experience Database. The PWR Owner's Group recently reviewed the component reliability data and identified that the failure to run data used in the SPAR models is potentially over-estimating the probability of diesel failures². The PWR Owner's Group, when reviewing this data, showed that the failure rate for diesel generators failing to run could be reduced from 1.35E-03 per hour to 8.44E-04 per hour.

CONSERVATIVE CORE DAMAGE SEQUENCES

The preliminary risk assessment assumed that core damage would occur without accounting for the specific failure modes that were present in the cutsets. The most significant conservatism was that failure to run events, either diesel generators to turbine driven pumps, were assumed to occur at the start of the event, T=0. However, this failure mode does not align with the generic SPAR data as a failure to run event is noted as occurring after the first hour and up to twenty-four hours. Incorporating this time dependence would allow for additional credit for FLEX mitigation strategies.

¹ LER 331-2020-001-01, Notice of Unusual Event and Unit Trip Due to Loss of Offsite Power Due to High Winds, ML20283A373

² PWROG-18026-P, Revision 1, "Component Reliability Data Issues and Strategies," August 2020.