

September 18, 2013

MEMORADUM TO: Michele G. Evans, Director
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Richard P. Correia, Director */RA/ D. Coe for R. Correia*
Division of Risk Analysis
Office of Nuclear Regulatory Research

SUBJECT: TRANSMITTAL OF FINAL OYSTER CREEK NUCLEAR
STATION ACCIDENT SEQUENCE PRECURSOR ANALYSIS

This memorandum provides the final results of an accident sequence precursor (ASP) analysis of an operational event that occurred at Oyster Creek Nuclear Station on July 23, 2012. This analysis has a final conditional core damage probability (CCDP) of 5×10^{-5} which is less than the threshold for a *significant* precursor (i.e., CCDP greater than or equal to 1×10^{-3}).

In accordance with U.S. Nuclear Regulatory Commission Regulatory Issue Summary 2006-24, "Revised Review and Transmittal Process for Accident Sequence Precursor Analyses," this analysis was not sent out for formal review to the licensee, Office of Nuclear Reactor Regulation (NRR), and Region I because the analysis had a preliminary CCDP of less than 1×10^{-4} . However, feedback received from informal reviews by NRR and Region I were incorporated into the analysis, as appropriate.

The ASP Program continues to systematically review licensee event reports (LERs) and all other event reporting information [e.g., inspection reports (IRs)] for potential precursors, and to analyze those events which have the potential to be precursors. The complete summary of FY 2012 ASP events will be provided in the upcoming Commission paper on the status of the ASP Program and Standardized Plant Analysis Risk (SPAR) Models due to be issued in October 2013.

Transmittal to Licensee Requested. We are requesting NRR to send the enclosed final ASP analysis to the licensee for their information. The ASP analysis will be made publically available after the analysis has been transmitted to the licensee. Please inform us when the ASP analysis has been sent to the licensee.

CONTACT: Keith Tetter, RES/DRA
301-251-7605

Final ASP Analysis Summary. A brief summary of the final ASP analysis, including the results, is provided below.

Turbine-Generator Trip and Reactor Scram Following a Transmission Line Trip Causing a Loss of Offsite Power (July 2012) at Oyster Creek Nuclear Station. This event is documented in LER 219/12-001-02 and Inspection Report 05000219/2012004.

Event Summary. At 3:29 am on July 23, 2012, Oyster Creek experienced a complete loss of offsite power (LOOP) for about one and a half hours. With the loss of the 230 kV transmission path following a single phase-to-ground fault on one of the three lines, the loading on the main generator was significantly reduced. The reduction in loading resulted in an increase in turbine speed, prompting the reactor protection system to scram the reactor in anticipation of a turbine trip. Both emergency diesel generators (EDGs) automatically started and powered their respective essential busses as designed.

Summary of Analysis Results. This operational event resulted in a CCDP of 5×10^{-5} . The detailed ASP analysis can be found in the Enclosure.

Risk Insights. The dominant sequence for this analysis involves the LOOP initiating event and operator errors. The risk of the at-power LOOP event was heavily influenced by the dependency between operator errors associated with manual depressurization and Emergency Condenser operation.

Sensitive Information. The detailed ASP analysis has been reviewed in accordance with current guidance of sensitive unclassified non-safeguards information, and it has been determined that it may be released to the public.

Enclosure:
As stated

Final ASP Analysis Summary. A brief summary of the final ASP analysis, including the results, is provided below.

Turbine-Generator Trip and Reactor Scram Following a Transmission Line Trip Causing a Loss of Offsite Power (July 2012) at Oyster Creek Nuclear Station. This event is documented in LER 219/12-001-02 and Inspection Report 05000219/2012004.

Event Summary. At 3:29 am on July 23, 2012, Oyster Creek experienced a complete loss of offsite power (LOOP) for about one and a half hours. With the loss of the 230 kV transmission path following a single phase-to-ground fault on one of the three lines, the loading on the main generator was significantly reduced. The reduction in loading resulted in an increase in turbine speed, prompting the reactor protection system to scram the reactor in anticipation of a turbine trip. Both emergency diesel generators (EDGs) automatically started and powered their respective essential busses as designed.

Summary of Analysis Results. This operational event resulted in a CCDP of 5×10^{-5} . The detailed ASP analysis can be found in the Enclosure.

Risk Insights. The dominant sequence for this analysis involves the LOOP initiating event and operator errors. The risk of the at-power LOOP event was heavily influenced by the dependency between operator errors associated with manual depressurization and Emergency Condenser operation.

Sensitive Information. The detailed ASP analysis has been reviewed in accordance with current guidance of sensitive unclassified non-safeguards information, and it has been determined that it may be released to the public.

Enclosure:
As stated

DISTRIBUTION:

PRB R/F	HNourbakhsh, ACRS	DRoberts, RI (DRP)
DRA R/F	SWeerakkody, NRR	CCahill, RI (SRA)
BSheron/SWest, RES	HCruz, NRR	WCook, RI(SRA)
JGiitter/SLee, NRR	HChernoff, NRR	WSchmidt, RI (SRA)
ELeeds/JUhle, NRR	RFranovich, NRR	JKulp, RI (SRI)
JLamb, NRR (PM)	CMiller, RI (DRS)	

ADAMS Accession No.: ML13199A502

OFFICE	RES/DRA/PRB	RES/DRA/PRB	RES/DRA
NAME	K. Tetter	G. DeMoss	R. Correia
DATE	7/19/13	8/2/13	9/18/13