



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 19, 2018

MEMORADUM TO: Michael F. Weber
Director of Nuclear Regulatory Research

FROM: Michael C. Cheek, Director */RA/*
Division of Risk Analysis
Office of Nuclear Regulatory Research

SUBJECT: TRANSMITTAL OF THE ACCIDENT SEQUENCE PRECURSOR
PROGRAM 2017 ANNUAL REPORT

This memorandum transmits the Accident Sequence Precursor (ASP) Program 2017 Annual Report. The ASP Program assesses licensee event reports at U.S nuclear power plants to identify potential precursors to core damage.

Thirteen events were determined to exceed the ASP Program threshold and, therefore, are precursors. Of these 13 precursors, 8 events were identified by ASP analyses and 5 events used Significance Determination Process results. No significant precursors were identified in 2017.

A review of the trends over the past decade (2008–2017) reveals statistically significant decreasing trends for all precursors, precursors due to degraded conditions, and precursors at pressurized-water reactors. Since 2008, the ASP Program has documented 149 precursors (99 involving degraded conditions and 50 resulting from initiating events). Emergency power system failures are the most frequent cause of degraded condition precursors, while 34 percent of initiating event precursors are the result of natural phenomena (e.g., severe weather, seismic, etc.).

The ASP Program results show that current agency oversight programs and licensing activities remain effective. The Reactor Oversight Process (ROP) continues to focus on plant events based on safety significance, and ASP events and trends do not show gaps in licensee performance areas not currently covered by the ROP. The ASP Program results also continue to show that licensee risk management initiatives are effective in helping to maintain a flat or decreasing risk profile for the industry. In the area of licensing activities, the risk profiles and trends from the ASP Program do not show indications of increasing risk due to the potential cumulative impact of risk-informed initiatives.

Enclosure:
As stated

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2017 ANNUAL REPORT

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ADAMS Accession No.: ML18130A854

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