

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

March 3, 2006

NRC INFORMATION NOTICE 2006-06: LOSS OF OFFSITE POWER AND STATION
BLACKOUT ARE MORE PROBABLE DURING
SUMMER PERIOD

ADDRESSEES

All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to inform addressees about the recent Office of Nuclear Regulatory Research (RES) study that confirmed an increased frequency of loss-of-offsite power (LOOP) and station blackout (SBO) events during the summer period (i.e., May through September). Recipients are expected to review the information for applicability to their facilities and consider appropriate actions to address similar problems. However, suggestions contained in this information notice are not NRC requirements and no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

NUREG-1784, "Operating Experience Assessment - Effects of Grid Events on Nuclear Power Plant Performance," dated December 2003 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML033530400), showed that switchyard and grid-related LOOP events occurred mostly during the summer months.

A new report on RES-sponsored work by the Idaho National Laboratory entitled NUREG/CR-6890, "Re-evaluation of Station Blackout Risk at Nuclear Power Plants," was published in December 2005 (ADAMS Accession Nos. ML060200477, ML060200479, and ML060200510). The new report confirmed the earlier observations and showed the following seasonal risk insights:

- The SBO risk increased by a factor of two during the summer period between 1997 and 2004 because 22 summer and 2 non-summer LOOP events occurred during this period.
- The overall LOOP frequency is more than twice as high during the summer period when compared to the annual average.

ML053200013

- The probability of LOOP after a reactor trip is greater during the summer period.
- All four categories of LOOP (plant, switchyard, grid, and weather-centered events) had higher frequencies during the summer period.

DISCUSSION

An insight from the new study is that plant-specific LOOP frequencies can change significantly with seasonal conditions. The changes in the probability of a LOOP or an SBO by season can affect assumptions used in plant-specific risk assessments (either quantitative or qualitative) required by Title 10 of the Code of Federal Regulations, Section 50.65, the Maintenance Rule. The risk assessments for individual plants in different regions of the country and at different times of the year could also be affected based on regional uniqueness resulting from seasonal generating and transmission limitations.

CONTACT

This information notice requires no specific action or written response. Please direct any questions about this matter to the technical contacts listed below or the Office of Nuclear Reactor Regulation (NRR) project manager.

/RA/

Christopher I. Grimes, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Technical Contacts: Thomas Koshy, NRR
301-415-1176
E-mail: txk@nrc.gov

George Morris, NRR
301-415-4074
E-mail: gwm2@nrc.gov

Dale Rasmuson, RES
301-415-7571
E-mail: dmr@nrc.gov

NRR Project Manager: Carla Roquecruz, NRR
301-415-1455
E-mail: cpr1@nrc.gov

Note: NRC generic communications may be found on the NRC public Web site, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.