



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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No. 12-086

July 27, 2012

NRC ISSUES BULLETIN ON POTENTIAL DESIGN VULNERABILITY IN ELECTRIC POWER SYSTEMS AT NUCLEAR POWER PLANTS

The Nuclear Regulatory Commission has issued a Bulletin to all nuclear power plant licensees requesting information about their electric power system designs and alerting them to a potential design vulnerability that could affect the operation of key safety equipment.

On Jan. 30, Byron Station, Unit 2, shut down automatically due to unbalanced voltage entering the onsite power distribution system from the transmission network. The plant's electric power system's protection scheme was not designed to sense the loss of one of three power phases and automatically trip circuits to isolate the degraded outside power source and switch to emergency backup power. Plant operators diagnosed the problem eight minutes later and manually tripped the necessary circuits.

The degraded offsite power source potentially could have damaged the plant's emergency core cooling system. NRC regulations and plant technical specifications require reliable off-site and onsite power systems with sufficient capacity and capability to operate safety-related systems. Therefore, the NRC staff is seeking information to verify compliance with existing regulations and plant-specific licensing bases. The staff will use the information it receives to inform the Commission and determine if further regulatory action is needed.

The NRC issued Information Notice 2012-03 on March 1 to inform licensees of recent experience involving loss of one of three phases of the offsite power circuit, including the Byron event. The current Bulletin requests licensees to provide information on their electric system designs within 90 days. It applies to the 104 currently operating commercial power reactors and the four combined licenses for new reactors issued earlier this year. It does not apply to licensees who have permanently ceased operation and certified that the fuel has been removed from the reactor vessel.

Bulletin 2012-01, "Design Vulnerability in Electric Power System," is available on the [NRC website](#).

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