



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-4005**

July 23, 2004

MEMORANDUM TO: Farouk Eltawila, Director  
Division of Systems Analysis and Regulatory Effectiveness  
Office of Nuclear Regulatory Research

FROM: William A. Maier */RA/*  
Regional State Liaison Officer  
Region IV

SUBJECT: REQUEST FOR PROPOSED ABNORMAL OCCURRENCES AND  
"OTHER EVENTS OF INTEREST" ITEMS FOR THE THIRD QUARTER  
- FISCAL YEAR 2004

In response to your July 2, 2004 memorandum requesting write-ups for events for possible inclusion in the fiscal year 2004 volume of NUREG-0090, "Report to Congress on Abnormal Occurrences", Region IV submits the attached write-up of of a reactor event describing a loss of offsite power to the Palo Verde Nuclear Generating Station. This write-up has been provided via E-mail to Ms. Andrea Jones of your staff.

Attachment: as stated

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## ATTACHMENT

### OTHER EVENTS OF INTEREST

#### NUCLEAR POWER PLANTS

##### Loss of Offsite Power at Palo Verde

The following event did not meet the AO criteria since it did not involve a loss of plant capability to perform essential safety functions so that a release of radioactive materials could occur from a postulated transient or accident. It is included in this report because of significant media and some congressional interest.

On June 14, 2004, at approximately 7:41 a.m. MST, an electrical fault occurred on a 230 kV transmission line in northwest Phoenix, Arizona, approximately 47 miles from the Palo Verde Nuclear Generating Station (PVNGS). A protective relay failure resulted in the fault not isolating from the local power grid for approximately 38 seconds. This uninterrupted fault caused the protective tripping of a number of 230 and 500 kV transmission lines, a nearly concurrent trip of all three PVNGS units, and the loss of six additional nearby generation units.

Because of the loss of offsite power, the PVNGS licensee declared a Notice of Unusual Event for all three units at approximately 7:50 a.m. MST. Subsequently, the Unit 2 Train "A" emergency diesel generator started but failed during electrical loading (due to a failed voltage regulator diode). This de-energized electrical busses supplying certain safety equipment for operators. Because of this failure, the licensee elevated the emergency classification for Unit 2 to an Alert at 7:54 a.m. MST. Within 10 minutes, all three units were placed in a stable shutdown condition on natural circulation cooling. Forced circulation cooling was restored to all units within 25 hours after the event. The three units returned to operation within 7 days after the event.

The NRC dispatched an Augmented Inspection Team (AIT) to PVNGS on June 14, 2004, immediately following the event. The AIT concluded that immediate corrective actions implemented by the licensee for continued operation of the facility were sufficient. The AIT found that, while the facility was safely shutdown and stabilized, a number of system failures, as well as procedure and human performance issues, complicated the event and recovery efforts. On July 12, 2004, a public meeting was conducted in Goodyear, Arizona, to discuss the AIT findings. The inspection report was issued July 16, 2004.

The NRC will conduct a follow-up inspection to disposition unresolved issues identified by the AIT.