

March 21, 2006

Mr. James M. Levine
Executive Vice President, Generation
Mail Station 7602
Arizona Public Service Company
P.O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 -
REQUEST FOR ADDITIONAL INFORMATION REGARDING THE REVISED
STATION BLACKOUT EVALUATION (TAC NOS. MC8787, MC8788, AND
MC8789)

Dear Mr. Levine:

By letter dated October 28, 2005, Arizona Public Service submitted a revised Station Blackout evaluation for the Palo Verde Nuclear Generating Station Units 1, 2, and 3, increasing the coping duration from 4 hours to 16 hours to gain margin relative to nuclear safety.

The Nuclear Regulatory Commission (NRC) staff has reviewed the information provided and determined that additional information is required in order to complete the evaluation. The additional information being requested is enclosed. As discussed with Glenn Michael of your staff, the NRC staff is requesting a response within 30 days of the date of this letter.

If you have any questions, please contact me at 301-415-3062.

Sincerely,

/RA/

Mel B. Fields, Senior Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, 50-529
and STN 50-530

Enclosure: Request for Additional Information

cc w/encls: See next page

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NAME	MFields	DJohnson	DTerao
DATE	3/21/06	3/21/06	3/21/06

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REQUEST FOR ADDITIONAL INFORMATION
ARIZONA PUBLIC SERVICE COMPANY, ET. AL.
PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3
DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

By letter dated October 28, 2005 (Agencywide Documents and Access Management System (ADAMS) Accession No. ML053120390), Arizona Public Service Company submitted a revised Station Blackout (SBO) evaluation for the Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3, increasing the coping duration from 4 hours to 16 hours to gain margin relative to nuclear safety.

The staff has reviewed the information provided and determined that the following additional information is required in order to complete the evaluation.

Questions Related to the Electrical Area

1. In Table 2 of the October 28, 2005, letter, main essential lighting panel load is shown as 90 kW. Table 8.3-3, page 8.3-6 of the Updated Final Safety Analysis Report indicates this load as 160 kW. Provide an explanation for this difference.
2. In the October 28, 2005, letter, it is stated that the 2-way radio system has a 4-hour battery system and will be transferred to the gas turbine generator (GTG). Is the load included in Table 2 of the amendment request? If so, please identify this load.
3. Please confirm that the loading (3364.3 kW) shown in Table 2 of the October 28, 2005, letter represents the worst case loading for both trains of all three units.

Questions Related to the Human Performance Area

These questions are in reference to Item 7 of the Coping Study

1. With the exception of the operator actions in step D, are there any other new operator actions that take place after the actuation of the alternate alternating current (AAC) power source? This question also applies to the operator actions listed in Item 3, part A of Procedures. If so, what was the basis for including these particular actions as they relate to the extended coping period?
2. What was the justification for using the pressurizer vent valves as opposed to the auxiliary spray to control Reactor Coolant System (RCS) pressure after 4 hours of an SBO and preceding operator actions in step D?
3. How will the simulator be modeled and validated to meet the estimated response times listed on Table 5 for the operators using the revised procedures?

Questions Related to the Reactor System Area

1. The PVNGS 16-hour SBO coping analysis was performed using the CENTS code to model the behavior of the RCS. Provide the basis for using the CENTS Code for this use.
2. The 16-hour SBO coping strategy includes several operator actions. For example, after the actuation of the AAC power source at one hour into the event, operator actions are necessary to (1) open the steam generator (SG) atmospheric dump valves (ADV) for decay heat removal; (2) adjust the auxiliary feedwater system to match the ADV flow to maintain SG level; and (3) load the high-pressure safety injection (HPSI) pump onto the GTG-energized bus to deliver flow as the RCS pressure drops below the HPSI pump shutoff head to maintain RCS inventory, subcooling, and natural circulation. At four hours, the following operator actions are required to start a cooldown to shutdown cooling entry condition during the remaining 12 hours of the coping period: (1) adjusting ADVs hourly to sustain an approximately 30 oF/hr cooldown; and (2) opening the pressurizer vent valve to maintain the RCS pressure and inventory.

Describe how the CENTS Code was controlled to reflect these operator actions.

Palo Verde Generating Station, Units 1, 2, and 3
cc:

Mr. Steve Olea
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007

Mr. Douglas Kent Porter
Senior Counsel
Southern California Edison Company
Law Department, Generation Resources
P.O. Box 800
Rosemead, CA 91770

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P. O. Box 40
Buckeye, AZ 85326

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
Harris Tower & Pavillion
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Chairman
Maricopa County Board of Supervisors
301 W. Jefferson, 10th Floor
Phoenix, AZ 85003

Mr. Aubrey V. Godwin, Director
Arizona Radiation Regulatory Agency
4814 South 40 Street
Phoenix, AZ 85040

Mr. Craig K. Seaman, General Manager
Regulatory Affairs and
Performance Improvement
Palo Verde Nuclear Generating Station
Mail Station 7636
P.O. Box 52034
Phoenix, AZ 85072-2034

Mr. Hector R. Puente
Vice President, Power Generation
El Paso Electric Company
310 E. Palm Lane, Suite 310
Phoenix, AZ 85004

Mr. John Taylor
Public Service Company of New Mexico
2401 Aztec NE, MS Z110
Albuquerque, NM 87107-4224

Mr. Thomas D. Champ
Southern California Edison Company
5000 Pacific Coast Hwy Bldg D1B
San Clemente, CA 92672

Mr. Robert Henry
Salt River Project
6504 East Thomas Road
Scottsdale, AZ 85251

Mr. Jeffrey T. Weikert
Assistant General Counsel
El Paso Electric Company
Mail Location 167
123 W. Mills
El Paso, TX 79901

Mr. John Schumann
Los Angeles Department of Water & Power
Southern California Public Power Authority
P.O. Box 51111, Room 1255-C
Los Angeles, CA 90051-0100

Mr. Brian Almon
Public Utility Commission
William B. Travis Building
P. O. Box 13326
1701 North Congress Avenue
Austin, TX 78701-3326

March 2006

Palo Verde Generating Station, Units 1, 2, and 3
cc:

Ms. Karen O'Regan
Environmental Program Manager
City of Phoenix
Office of Environmental Programs
200 West Washington Street
Phoenix AZ 85003

Mr. Matthew Benac
Assistant Vice President
Nuclear & Generation Services
El Paso Electric Company
340 East Palm Lane, Suite 310
Phoenix, AZ 85004

March 2006