



A subsidiary of Pinnacle West Capital Corporation

Palo Verde Nuclear
Generating Station

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102-06453-DCM/MAM/DLK
December 29, 2011

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station Units 1, 2, and 3
Docket Nos. STN 50-528, 50-529, and 50-530
Response to Nuclear Regulatory Commission's (NRC) Request for
Additional Information (RAI) Regarding Arizona Public Services'
(APS) 60-Day Response to Bulletin 2011-01, "Mitigating Strategies,"
(TAC Nos. ME6462, ME6463, and ME6464)**

By letter No. 102-06378 from D.C. Mims to U.S. NRC, dated July 11, 2011, APS submitted the 60-day response to NRC Bulletin 2011-01 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11200A313). The enclosure to this letter contains the response to the NRC's RAI regarding APS' 60-day response, dated November 30, 2011 (ADAMS Accession No. ML113110205).

No commitments are being made to the NRC by this letter. Should you need further information regarding this response, please contact Mark McGhee, Compliance Section Leader, at (623) 393-4972.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on DECEMBER 29, 2011
(Date)

Sincerely,

for D.C. Mims

DCM/MAM/DLK/dlk

A146
NRC

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Enclosure: Response to Request for Additional Information (RAI) Regarding
Arizona Public Service Company's (APS) 60-Day Response to NRC
Bulletin 2011-01, "Mitigating Strategies"

cc:

E. E. Collins Jr.	NRC Region IV Regional Administrator
B. K. Singal	NRC NRR Project Manager for PVNGS
L. K. Gibson	NRC NRR Project Manager for PVNGS
J. R. Hall	NRC NRR Senior Project Manager
M. A. Brown	NRC Senior Resident Inspector for PVNGS
A. V. Godwin	Arizona Radiation Regulatory Agency (ARRA)
T. Morales	Arizona Radiation Regulatory Agency (ARRA)

Enclosure

**Response to Request for Additional Information (RAI) Regarding
Arizona Public Service Company's (APS) 60-Day Response to NRC
Bulletin 2011-01, "Mitigating Strategies"**

Introduction

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML 111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The purpose of the bulletin was to obtain a comprehensive verification that licensees' mitigating strategies to maintain or restore core cooling, spent fuel cooling, and containment following a large explosion or fire were compliant with Title 10 of the Code of Federal Regulations (10 CFR) Section 50.54(hh)(2). The bulletin requested information on licensees' 10 CFR 50.54(hh)(2) mitigating strategies in light of the recent events at Japan's Fukushima Daiichi facility to determine if (1) additional assessment of program implementation is needed, (2) the current inspection program should be enhanced, or (3) further regulatory action is warranted.

The bulletin required two sets of responses pursuant to the provisions of 10 CFR 50.54(f). The first response was due 30 days after issuance of the bulletin. By letter dated June 10, 2011 (reference 1), Arizona Public Service Company (APS) provided a response to the first set of questions for Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3. The second response was due 60 days after issuance of the bulletin. By letter dated July 11, 2011 (reference 2), APS responded to this second set of questions. Portions of the letter dated July 11, 2011, contain sensitive, unclassified, non-safeguards information and, accordingly, are withheld from public disclosure.

The NRC staff reviewed the information provided by APS and determined that the following additional information is needed to complete the review of the 60-day response to the bulletin (reference 3).

NRC Request 1

Please describe in detail how the licensee ensures there is sufficient fuel for the pumping source when needed.

The bulletin requested that each licensee describe in detail the maintenance of equipment supporting the mitigating strategies to ensure that it will be functional when needed. The licensee's response did not specify the activities performed to ensure that sufficient fuel would be available for the pumping source so that it will be functional when needed.

APS Response

PVNGS uses a B.5.b designated fire pumper engine for a pumping source in the plant's mitigating strategies. Fire department personnel conduct a daily repetitive task on the

fire pumper engine that includes verification that the fuel tank is greater than or equal to 75 percent full (approximately 48 gallons). The fire pumper engine consumes about 22 gallons per hour while operating in support of mitigating strategies to maintain or restore core cooling, spent fuel cooling, and containment following a large explosion or fire.

The PVNGS transportation department operates and maintains two on-site fuel storage tanks – one 10,000 gallon capacity tank and one 20,000 gallon capacity tank. The storage tanks are equipped with level sensors. The fuel vendor for PVNGS monitors the fuel level in the storage tanks and, by agreement, delivers fuel before the fuel level reaches 2000 gallons in either tank. Based on a review of fuel inventory over the past six months, the minimum combined fuel storage tank volume remained above 7000 gallons.

Additionally, the transportation department also operates and maintains two on-site fuel trucks. Both fuel trucks have a design capacity of 1200 gallons. The fuel trucks are used to refuel the fire pumper engine during pumping operations. One of the refueling trucks is used to refuel heavy excavation equipment at the PVNGS Water Reclamation Facility. Daily fuel inventory is not checked on this fuel truck; however, the fuel truck is typically maintained full (approximately 1100 gallons) or nearly full. The fuel volume in the other fuel truck, which is typically used to support equipment in the vicinity of Units 1, 2, and 3, is checked. Prior to the end of each shift, transportation department personnel verify the “Unit 1, 2, and 3 support fuel truck” contains at least 300 gallons of fuel. Based on a review of fuel inventory over the past six months, the minimum “Unit 1, 2, and 3 support fuel truck” volume remained above 375 gallons. Fire department personnel have access to and receive training on the operation of the fuel trucks in the event that refueling operations are necessary when transportation department personnel are not on site.

NRC Request 2

Please identify the minimum inventory frequency for equipment needed for the mitigating strategies not specifically identified in response to the bulletin. Alternatively, please describe the inventory frequency for firefighter turnout gear needed to support the mitigating strategies.

The bulletin requested that each licensee describe in detail the controls for ensuring equipment supporting the mitigating strategies will be available when needed. Firefighter turnout gear, tools, and instruments are generally needed to implement the mitigating strategies. The NRC staff found that tools and instruments are specifically listed in the licensee's response, but the licensee did not specify that firefighter turnout gear is inventoried.

APS Response

PVNGS firefighters inventory and inspect firefighting turnout gear needed to support the mitigating strategies on a quarterly basis in accordance with the schedule established in PVNGS Site Work Management System. Each firefighter is responsible for physically inspecting their personal protective equipment. The procedure used to inventory and inspect firefighting turnout gear ensures the gear is in a serviceable and acceptable condition in accordance with National Fire Protection Administration standard. Each firefighter documents the inventory and inspection in the appropriate section of the procedure. The quarterly procedure remains open until every firefighter has verified their turnout gear is acceptable.

References

1. Letter No. 102-06368 from D.C. Mims to NRC, "30-Day Response to NRC Bulletin 2011-01, Mitigating Strategies," dated June 10, 2011 (ADAMS Accession No. ML11173A060)
2. Letter No. 102-06378 from D.C. Mims to NRC, "60-Day Response to NRC Bulletin 2011-01, Mitigating Strategies," dated July 11, 2011 (ADAMS Accession No. ML11200A313)
3. NRC RAI regarding APS' 60-Day response to NRC Bulletin 2011-01, "Mitigating Strategies," (TAC Nos. ME6462, ME6463, and ME6464), dated November 30, 2011 (ADAMS Accession No. ML113110205)