

June 24, 2008

Mr. Randall K. Edington
Executive Vice President, Nuclear
and Chief Nuclear Officer
Mail Station 7602
Arizona Public Service Company
P. O. Box 52034
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SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 –
PROPOSED REVISIONS TO EMERGENCY PLAN AND IMPLEMENTING
PROCEDURES RE: EMERGENCY ACTION LEVELS (TAC NOS. MD3883,
MD3884, AND MD3885)

Dear Mr. Edington:

By letter dated December 22, 2006, and supplemented by letters dated June 26, and December 7, 2007, Arizona Public Service Company (APS) submitted a request for approval of changes to the Emergency Plan and Implementing Procedures for the Palo Verde Nuclear Generating Station (Palo Verde), Units 1, 2, and 3, pursuant to Section 50.54(q) of Title 10 of the *Code of Federal Regulations* (10 CFR). In those letters, APS requested U.S. Nuclear Regulatory Commission (NRC) approval of changes to several of the Palo Verde emergency action levels. The APS request was clarified during discussions with Mr. Glenn Michael and others of your staff on October 12 and December 7, 2007.

As discussed in the enclosed safety evaluation, the NRC staff finds that the proposed changes meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of 10 CFR Part 50, and provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Therefore, the NRC staff concludes that the proposed changes are acceptable.

If you have any questions, please contact the Palo Verde Project Manager, Mr. Michael Markley, at 301-415-5723.

Sincerely,

/RA by Jim Wiggins for/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

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

Enclosure:
Safety Evaluation

cc w/encl: See next page

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As discussed in the enclosed safety evaluation, the NRC staff finds that the proposed changes meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E of 10 CFR Part 50, and provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Therefore, the NRC staff concludes that the proposed changes are acceptable.

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

Enclosure:
Safety Evaluation
cc w/encl: See next page

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ADAMS Accession No.: ML080170579

(*) SE input memo

(**) See previous concurrence

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DATE	5/30/08	6/17/08	6/19/08	6/24/08

OFFICIAL AGENCY RECORD

Palo Verde Nuclear Generating Station

6/13/2008

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
PROPOSED REVISIONS TO EMERGENCY PLAN AND IMPLEMENTING PROCEDURES
FOR CHANGES TO EMERGENCY ACTION LEVELS
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

1.0 INTRODUCTION

By letter dated December 22, 2006, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML070040333), and supplemented by letters dated June 26 and December 7, 2007 (ADAMS Accession Nos. ML071840239 and ML073480174, respectively), Arizona Public Service Company (APS, the licensee) submitted a request for approval of changes to the emergency plan and implementing procedures (EIPs) for the Palo Verde Nuclear Generating Station (Palo Verde), Units 1, 2, and 3, pursuant to Title 10, Section 50.54(q), of the *Code of Federal Regulations* (10 CFR 50.54(q)). In those letters, APS requested U.S. Nuclear Regulatory Commission (NRC) approval of changes to several of the Palo Verde emergency action levels (EALs). The APS letters all contain security-related information and are, therefore, exempt from public disclosure in accordance with 10 CFR 2.390(d)(1). The NRC clarified the APS request during discussions with Mr. Glenn Michael and other APS staff members on October 12 and December 7, 2007.

Palo Verde currently uses an EAL scheme based on Nuclear Management and Resources Council (NUMARC) guidance document NUMARC/NESP-007, Revision 2, "Methodology for Development of Emergency Action Levels," issued January 1992. APS requested changes to the Palo Verde EALs as the result of the licensee's extensive review of its existing plans and procedures in an attempt to enhance clarity and understanding of the EALs and to better meet the regulatory position in Regulatory Guide (RG) 1.101, Revision 4, "Emergency Planning and Preparedness for Nuclear Power Reactors."

2.0 REGULATORY EVALUATION

The NRC staff reviewed the proposed revision against the regulations and guidance described below.

2.1 Regulations

Paragraph (a)(1) in 10 CFR 50.47, "Emergency Plans," states that no operating license for a nuclear power reactor will be issued unless the NRC finds that the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures

can and will be taken in the event of a radiological emergency. This CFR section also establishes the standards that the onsite and offsite emergency response plans must meet for the NRC staff to make a positive finding that there is reasonable assurance that adequate protective measures can and will be taken in a radiological emergency. One of these standards, 10 CFR 50.47(b)(4), stipulates that emergency plans include a standard emergency classification and action level scheme. Section IV.B of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," states that emergency plans are to include EALs, which are to be used as criteria for determining the need for notification and participation of State and local agencies and for determining when and what type of protective measures should be considered, both on and off site, to protect public health and safety. EALs shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring. Section IV.B. of Appendix E to 10 CFR Part 50 stipulates that the EALs shall be reviewed with the State and local governmental authorities on an annual basis. Section IV.B of Appendix E also states that a revision to the EALs must be approved by the NRC before implementation if: (1) the licensee is changing from one EAL scheme to another (e.g., a change from an EAL scheme based on NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," to a scheme based upon NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels," or Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels"; (2) the licensee is proposing an alternate method for complying with the regulations; or (3) the EAL revision decreases the effectiveness of the emergency plan.

2.2 Guidance

The following guidance is applicable:

- Appendix 1 to NUREG-0654/FEMA-REP-1
- NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels," Revision 2, issued January 1992
- Regulatory Issue Summary (RIS) 2005-02, "Clarifying the Process for Making Emergency Plan Changes," dated February 2, 2005
- RIS 2003-18, "Use of NEI 99-01, 'Methodology for Development of Emergency Action Levels,' Revision 4, dated January 2003," dated October 8, 2003, with Supplement 1 (July 13, 2004) and Supplement 2 (December 12, 2005)
- RG 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 5 with Supplements 1 and 2, issued July 2003.

3.0 TECHNICAL EVALUATION

The licensee submitted the proposed changes to the NRC for a technical and regulatory review before implementation of the changes.

This evaluation is based on a revision to EALs provided in the APS letter dated December 22, 2006, as supplemented by letters dated June 26 and December 7, 2007. The licensee submitted the following EALs for NRC review:

EAL 1-2	EAL 1-4	EAL 1-16	EAL 3-1	EAL 3-2
EAL 3-3	EAL 3-4	EAL 3-5	EAL 3-6	EAL 3-8
EAL 3-9	EAL 3-10	EAL 3-11	EAL 3-13	EAL 3-14
EAL 3-15	EAL 3-16	EAL 3-17	EAL 3-18	EAL 3-19

Palo Verde Units 1, 2, and 3 currently utilize an EAL scheme based on NUMARC/NESP-007. The staff reviewed the proposed EALs against the guidance in NUMARC/NESP-007 to determine if the EALs, as proposed, continue to meet the following guidelines:

- consistency (i.e., the EALs would lead to similar decisions under similar circumstances at different plants)
- human engineering and user friendliness
- potential for classification upgrade only when there is an increasing threat to public health and safety
- ease of upgrading and downgrading
- thoroughness in addressing and disposing of the issues of completeness and accuracy raised regarding Appendix 1 to NUREG-0654
- technical completeness for each classification level
- a logical progression in classification for multiple events
- objective observable values

The staff reviewed the proposed EALs and has determined that the proposed EALs are consistent with EALs implemented at other plants, use objective and observable values, and are consistent with the intent of NUMARC/NESP-007 (ADAMS Accession No. ML041120174). RG 1.101 states that the guidance in NUMARC/NESP-007 is acceptable to the NRC as an alternative method to that described in Appendix 1 to NUREG-0654/FEMA-REP-1 for developing EALs. RG 1.101 further states that the guidance contained in NEI 99-01, Revision 4, is acceptable to the NRC staff as an alternative method to that described in Appendix 1 to NUREG-0654/FEMA-REP-1 and NUMARC/NESP-007 for developing EALs required under Section IV of Appendix E to 10 CFR Part 50 and 10 CFR 50.47(b)(4).

The staff has determined that the proposed EALs are worded in a manner that addresses human engineering and user friendliness concerns, as originally approved via the safety evaluation report dated July 13, 1994. Because Palo Verde's current EAL scheme does not use the typical numbering convention provided in NUMARC/NESP-007 or NEI 99-01, and its current EALs do not take advantage of any enhancements made to the wording provided in NEI 99-01, the NRC staff has suggested that APS consider upgrading its current EAL scheme to the

scheme provided in NEI 99-01. During discussions on December 7, 2007, the licensee informed the NRC staff that APS plans to upgrade the Palo Verde EALs to the latest NEI 99-01 guidance and has begun the process of upgrading its EALs and adopting the standard numbering convention.

Enclosure 2, "Proposed Changes to EPIP 99, with corrected pages," to the APS letter dated December 7, 2007, states explicitly the EAL wording reviewed by the staff. The staff expects that the licensee will implement the EALs as worded in Enclosure 2, which includes the applicable technical basis information.

4.0 CONCLUSION

The NRC staff performed a technical and regulatory review of the proposed changes to the Palo Verde EALs. The staff finds that the proposed changes meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50 and provide reasonable assurance that the licensee will take adequate protective measures in a radiological emergency. Therefore, the NRC staff determined that the proposed changes are acceptable.

Enclosure 2 to the APS letter dated December 7, 2007, contains the proposed changes to the EALs for Palo Verde, Units 1, 2, and 3.

5.0 REFERENCES

1. Letter from Palo Verde to the NRC, "Withdrawal and Resubmittal of Emergency Plan and Emergency Plan Implementing Procedure Requests," December 22, 2006 (ADAMS Accession No. ML070040333).
2. Letter from Palo Verde to the NRC, "Emergency Plan and Emergency Plan Implementing Procedure Changes—Response to NRC Staff Request for Additional Information," June 26, 2007 (ADAMS Accession No. ML071840239).
3. Letter from Palo Verde to the NRC, "Emergency Plan and Emergency Plan Implementing Procedure Changes—Corrected Pages," December 7, 2007 (ADAMS Accession No. ML073480174).
4. Enclosure 2, "Proposed Changes to EPIP 99, with corrected pages," Letter from Palo Verde to the NRC, December 7, 2007, "Emergency Plan and Emergency Plan Implementing Procedure Change—Corrected Pages" (ADAMS Accession No. ML073480174).
5. Nuclear Utilities Management Council (Nuclear Management and Resources Council) NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels," Revision 2, January 1992 (ADAMS Accession No. ML041120174).
6. Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 4, July 2003 (ADAMS Accession No. ML032020276).

7. NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, November 30, 1980 (ADAMS Accession No. ML040420012).
8. Regulatory Issue Summary (RIS) 2005-02, "Clarifying the Process for Making Emergency Plan Changes," February 2, 2005 (ADAMS Accession No. ML042580404).
9. RIS 2003-18, "Use of NEI 99-01, Methodology for Development of Emergency Action Levels, Revision 4," January 2003, with Supplement 1 (July 13, 2004) and Supplement 2 (December 12, 2005) (ADAMS Accession No. ML022750545).
10. Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 5, with Supplements 1 and 2, June 23, 2005 (ADAMS Accession No. ML050730286).

Principal Contributor: D. Johnson

Date: June 24, 2008