May 1, 2006

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

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION, UNITS 1, 2, AND 3 - REQUEST TO USE A SUBSEQUENT EDITION AND ADDENDA TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) BOILER AND PRESSURE VESSEL CODE (CODE) SECTION XI FOR REPAIR AND/OR REPLACEMENT ACTIVITIES (TAC NOS. MD1196, MD1197, AND MD1198)

Dear Mr. Levine:

By letter dated April 7, 2006, Arizona Public Service Company submitted a request to use the 2001 Edition, no Addenda to ASME Code Section XI, for repair and/or replacement activities. The current inservice inspection (ISI) Code of record for Palo Verde Nuclear Generating Station (Palo Verde), Units 1, 2, and 3, is the 1992 Edition with the 1992 Addenda. The authorization of the subsequent edition and addenda of the ASME Code will allow qualification of the thermal metal removal process, avoiding the need to mechanically remove additional material from the processed areas that would be required under the current ISI Code of record.

Paragraph 50.55a(g)(4)(iv) of Title 10 of the *Code of Federal Regulations* (10 CFR) states that ISI of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda of the ASME Code provided that they are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b) and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met.

Based on the enclosed Safety Evaluation, the NRC staff concludes that the proposed request is acceptable and authorizes the use of the 2001 Edition, no Addenda to ASME Code Section XI for the repair/replacement activities specified in the April 7, 2006, application for the remainder

of the current 10-year ISI intervals for Palo Verde, Units 1, 2, and 3. All other requirements of the ASME Code, Section III and XI for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Sincerely,

/RA/

David Terao, Branch Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
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

of the current 10-year ISI intervals for Palo Verde, Units 1, 2, and 3. All other requirements of the ASME Code, Section III and XI for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Sincerely,

/RA/

David Terao, Branch Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
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

DISTRIBUTION

PUBLIC	LPLIV r/f	TBloomer, EDO RIV
RidsNrrPMMFields	RidsNrrDorlLplg	RidsAcrsAcnwMailCenter
RidsOgcRp	RidsNrrLADJohnson	RidsNrrDorlDpr
KGruss	RidsNrrDorl	RidsRgn4MailCenter (TPruett)

Accession No.: **ML061100111**

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/CFEB/BC	OGC	NRR/LPL4/BC
NAME	MFields;sem2	DJohnson	KGruss	MLemoncelli (NLO)	DTerao
DATE	4/21/06	5/1/06	4/27/06	5/1/06	5/1/06

OFFICIAL RECORD COPY

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE A SUBSEQUENT EDITION AND ADDENDA

TO AMERICAN SOCIETY FOR MECHANICAL ENGINEERS

BOILER AND PRESSURE VESSEL CODE, SECTION XI, FOR

REPAIR/REPLACEMENT ACTIVITIES

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 April 7, 2006, Arizona Public Service Company (the licensee) submitted a request to use the 2001 Edition, no Addenda to American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (Code) Section XI for repair/replacement activities. The current inservice inspection (ISI) Code of record is the 1992 Edition with the 1992 Addenda for the Palo Verde Nuclear Generating Station (Palo Verde), Units 1, 2, and 3. The authorization of the subsequent edition and addenda of the ASME Code will allow qualification of the thermal metal removal process, avoiding the need to mechanically remove additional material from the processed areas that would be required under the current ISI Code of record.

The licensee submitted this request in accordance with the guidance provided in NRC Regulatory Issue Summary (RIS) 2004-16, dated October 19, 2004. In this RIS, the NRC staff stated that licensees who wish to use provisions of subsequent editions and addenda of the ASME Code Section XI for activities, including repair/replacement activities, must receive prior NRC approval as required by section 50.55a(g)(4)(iv) of Title 10 of the *Code of Federal Regulations* (10 CFR).

2.0 REGULATORY REQUIREMENTS

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. Section 50.55a(g)(4)(ii) of 10 CFR requires that ISI examination of components and system pressure tests conducted during successive 120-month inspection intervals must comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

The repair, replacement, and modification of plant components are not explicitly mentioned in 10 CFR 50.55a(g)(4) and associated subparagraphs. However, these activities are specifically mentioned in ASME Code Section XI. The NRC staff maintains that these activities are not separate and distinct from, but are included under, inservice examinations. Therefore, the requirements of 10 CFR 50.55a(g)(4)(iv) are applicable to repair/replacement activities.

Section 50.55a(g)(4)(iv) states that inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda of the ASME Code provided that they are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b), and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met. Currently, Section 50.55a(b)(2) incorporates by reference the ASME Code Section XI from the 1970 Edition through the 1976 Winter Addenda, and the 1977 Edition (Division 1) through the 2003 Addenda (Division 1).

3.0 REQUEST TO USE A SUBSEQUENT EDITION AND ADDENDA TO ASME CODE SECTION XI FOR REPAIR/REPLACEMENT ACTIVITIES

3.1 Current Code Requirements

The current ASME Section XI Code of record for Palo Verde, Units 1, 2, and 3, is the 1992 Edition with 1992 Addenda. The applicable code requirements in the 1992 Edition with 1992 Addenda are as follows:

> IWA-4322, “Process Requirements for P-No. 8 and P-No. 43 Materials
>
> “If thermal removal processes are used on P-No. 8 and P-No. 43 materials, a minimum of 1/16 in. shall be mechanically removed from the thermally processed area.”

3.2 Proposed Alternative Code Edition and Requirements

The licensee proposes to use the 2001 Edition, no Addenda of the ASME Code Section XI for repair/replacement activities. The applicable requirements from that Code are as follows, subject to the limitations and modifications identified in 10 CFR 50.55a, “Codes and Standards.”

> IWA-4461.3, “P-Nos. 8 and 43 Materials”
>
> “If thermal removal processes are used on P-No. 8 and P-No. 43 materials, at least 1/16 in. (1.6 mm) of material shall be mechanically removed from the thermally processed area.”
>
> IWA-4461.4, “Alternatives to Mechanical Processing”
>
> Mechanical processing of thermally cut surfaces for materials identified in IWA-4461.3 is not required when the alternative of IWA-4461.4.1 is used.

IWA-4461.4.1, “Qualification of Thermal Metal Removal Process”

Mechanical processing of thermally cut surfaces is not required when the thermal metal removal process is qualified as follows:

(a) The qualification test shall consist of two coupons of the same P-No. material cut in production.

(b) The qualification coupons shall be cut using the maximum heat input to be used in production.

(c) The thermally cut surface of each coupon shall be visually examined at 10X and shall be free of cracks. The owner shall specify surface roughness acceptable for the application and shall verify that the qualification coupon meets the criterion.

(d) Each qualification coupon shall be cross sectioned, and exposed surfaces shall be polished, etched with a suitable etchant, and visually examined at 10X. All sectioned surfaces shall be free of cracks.

(e) Corrosion testing of the thermally cut surface and heat affected zone shall be performed if the cut surface is to be exposed to corrosive media. Alternatively, corrosion resistance of the thermally cut surface may be evaluated. The owner shall specify the acceptance criteria.

4.0 TECHNICAL EVALUATION

The NRC staff evaluated the licensee's request using the criteria contained in 10 CFR 50.55a(g)(4)(iv), which states that inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda of the ASME Code provided certain criteria are satisfied.

The first criterion is that the proposed edition and addenda is incorporated by reference in 10 CFR 50.55a(b). Currently, Section 50.55a(b)(2) incorporates by reference the ASME Code Section XI from the 1970 Edition through the 1976 Winter Addenda, and the 1977 Edition (Division 1) through the 2003 Addenda (Division 1), which includes the 2001 Edition, no Addenda of the ASME Section XI Code proposed by the licensee.

The second criterion is that the limitations and modifications listed in 10 CFR 50.55a(b) are satisfied for the specific use of the proposed subsequent Code edition and addenda. There is one restriction specified in 10 CFR 50.55a(b) for the portion of the 2001 Edition, no Addenda of the ASME Section XI Code that the licensee proposes to use. The restriction is contained in 10 CFR 50.55a(b)(2)(xxiii), *Evaluation of Thermally Cut Surfaces*, which states:

> The use of the provisions for eliminating mechanical processing of thermally cut surfaces in IWA-4461.4.2 of Section XI, 2001 Edition through the latest edition and addenda incorporated by reference in paragraph (b)(2) of this section are prohibited.

The licensee has stated in its April 7, 2006, application that this restriction will be complied with. Therefore, the NRC staff finds that the second criterion has been satisfied.

The third criterion is that if portions of subsequent Code editions or addenda are used, all related requirements of the respective editions or addenda must be met. The NRC staff is satisfied that the licensee has listed all related requirements in the 2001 Edition, no Addenda of the ASME Section XI Code that are relevant to the stated repair/replacement activities.

Based on the above, the NRC staff finds that the criteria of 10 CFR 50.55a(g)(4)(iv) are satisfied and that the licensee's request to use the 2001 Edition, no Addenda of the ASME Code Section XI for repair/replacement activities is acceptable.

5.0 CONCLUSION

The NRC staff concludes that the proposed request is acceptable and authorizes the use of the ASME Code Section XI, 2001 Edition, no Addenda, for the specified repair/replacement activities for the remainder of the current 10-year ISI intervals for Palo Verde, Units 1, 2, and 3. All other requirements of the ASME Code, Section III and XI for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: M. Fields

Date: May 1, 2006

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

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