*A subsidiary of Pinnacle West Capital Corporation*

Palo Verde Nuclear Generating Station

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102-06253-JHH/GAM
September 17, 2010

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Sirs:

**Subject: Palo Verde Nuclear Generating Station (PVNGS)**
**Units 1, 2, and 3**
**Docket Nos. STN 50-528, 50-529 and 50-530**
**Annual Update to the PVNGS License Renewal Application (LRA), and LRA Amendment No. 24**

By letter no. 102-05937, dated December 11, 2008, as supplemented by letter no. 102-05989, dated April 14, 2009, Arizona Public Service Company (APS) submitted a license renewal application (LRA) for PVNGS Units 1, 2, and 3. As required by 10 CFR 54.21(b), each year following submittal of the license renewal application, and at least three months before scheduled completion of the NRC review, an amendment to the LRA must be submitted that identifies any change to the current licensing basis (CLB) of the facility that materially affects the contents of the LRA, including the Final Safety Analysis Report (FSAR) supplement.

A change to the CLB that materially affects the Palo Verde LRA is the installation of the new reactor vessel simplified head assembly. LRA changes to reflect this CLB change are provided in Amendment No. 24 in the enclosure as electronic markups (deletions crossed out and insertions underlined). No other changes to the CLB have been identified that materially affect the contents of the LRA.

The schedule provided on the NRC reactor license renewal Web site for the Palo Verde LRA review shows that the final Safety Evaluation Report SER is scheduled to be issued on December 17, 2010. Therefore, this submittal is intended to meet both the annual LRA update as well as the update required at least three months before scheduled completion of the NRC review.

APS makes no new commitments in this letter. Should you need further information regarding this submittal, please contact Russell A. Stroud, Licensing Section Leader, at (623) 393-5111.



A138
NRR

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

Executed on September 17, 2010
(date)

Sincerely,

Angela Krainik for John H. Hesser
by direction

JHH/RAS/GAM

Enclosure: Palo Verde Nuclear Generating Station License Renewal Application Amendment No. 24

cc:

| | |
|---|---|
| E. E. Collins Jr. | NRC Region IV Regional Administrator |
| J. R. Hall | NRC NRR Senior Project Manager |
| L. K. Gibson | NRC NRR Project Manager |
| J. H. Bashore | NRC Senior Resident Inspector (acting) for PVNGS |
| L. M. Regner | NRC License Renewal Project Manager |
| G. A. Pick | NRC Region IV (electronic) |

# ENCLOSURE

## Palo Verde Nuclear Generating Station
## License Renewal Application
## Amendment No. 24

| LRA Section | Page No. |
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| 2.4.1 | 2.4-4 |
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| Table 3.5.2-1 | 3.5-3 |

integrity of the pressure barrier. The penetration is flange-mounted to the outside containment wall with the aperture seal formed between the header plate and the flange with two concentric O-rings. Feed-through subassemblies, containing electrical conductors, pass through the header plate and are secured and sealed with special compression fittings. A fuel transfer tube penetration is provided for refueling. An inner pipe acts as the refueling tube with an outer pipe as the housing. The tube is fitted with a double-gasketed blind flange in the refueling canal and a standard gate valve in the spent fuel pool. The transfer tube penetrates the refueling canal wall, the containment shell, and the exterior wall of the fuel handling building. The sleeves are anchored into each wall and welded to each wall's liner plate. The housing is supported by the sleeves in the vertical and horizontal directions.

Containment Building Internal Structures

Structural and miscellaneous steel is installed inside the containment building to provide support for various safety-related and non safety-related systems and components, including platforms, stairways, and ladders, which facilitate access to the various elevations and areas for inspection and maintenance. The reactor vessel simplified head assembly includes a large framework of carbon steel beams and decking that support the air cooling unit and a steel missile shield, which is bolted to the underside of the assembly. The structure also serves as a lift attachment for the cable support structure. ~~During operation, a concrete missile barrier is installed above the reactor head to provide missile and biological shielding.~~

Supports for the reactor vessel, steam generators, reactor coolant pumps, pressurizer, and reactor coolant system pipe are attached to the steel framing and to the concrete structures of the containment building. These supports are addressed by a separate evaluation. Also supported by the internal containment structures, and likewise evaluated elsewhere, are supports for piping, ducts, miscellaneous equipment, electrical cable trays and conduit, instruments and tubing, and electrical and instrumentation enclosures and racks.

The primary shield is a heavily reinforced concrete structure that houses the reactor and provides the primary radiation shielding. The massive primary shield walls provide a support for the refueling pool walls above the reactor cavity. Penetrations in the primary shield walls are provided for the primary loop and cavity ventilation system.

The refueling pool is a reinforced concrete structure that is flooded during the reactor refueling operation. The refueling pool is lined with stainless steel plate and is connected with the spent fuel pool, in the fuel building, through the fuel transfer tube.

The secondary shield is a heavily reinforced concrete structure enclosing (together with the refueling pool walls) the steam generators. The massive secondary shield walls are anchored into the basemat of the containment in order to allow for load transfer to the foundation. Each of the two enclosed secondary shield compartments houses a steam generator and two reactor coolant pumps. The pressurizer compartment is attached to one of the secondary shield structures and is covered by a three-section removable reinforced concrete missile shield.

*Table 2.4-1 Containment Building*

| Component Type | Intended Function |
|---|---|
| Compressible Joints/Seals | Shelter, Protection<br>Structural Pressure Boundary |
| Concrete Elements | Fire Barrier<br>Flood Barrier<br>HELB Shielding<br>Missile Barrier<br>Shelter, Protection<br>Shielding<br>Structural Pressure Boundary<br>Structural Support |
| Fire Barrier Coatings/Wraps | Fire Barrier |
| Fire Barrier Seals | Expansion/Separation<br>Fire Barrier<br>Shelter, Protection |
| Hatch - Emergency Airlock | Missile Barrier<br>Shielding<br>Structural Pressure Boundary<br>Structural Support |
| Hatch - Equipment | Missile Barrier<br>Shielding<br>Structural Pressure Boundary<br>Structural Support |
| Hatch - Personnel Airlock | Fire Barrier<br>Missile Barrier<br>Shielding<br>Structural Pressure Boundary<br>Structural Support |
| Liner Containment | Shelter, Protection<br>Structural Pressure Boundary |
| Liner Refueling | Shelter, Protection |
| Penetration | Shielding<br>Structural Pressure Boundary<br>Structural Support |
| Pipe Whip Restraints and Jet Shields | Missile Barrier<br>Structural Support |
| Stairs/Platforms/Grates | Non-S/R Structural Support |
| Structural Steel | Missile Barrier<br>Structural Support |
| Tendons | Structural Support |

*Table 3.5.2-1 Containments, Structures, and Component Supports – Summary of Aging Management Evaluation - Containment Building (Continued)*

| Component Type | Intended Function | Material | Environment | Aging Effect Requiring Management | Aging Management Program | NUREG-1801 Vol. 2 Item | Table 1 Item | Notes |
|---|---|---|---|---|---|---|---|---|
| Structural Steel | SS | Carbon Steel | Encased in Concrete (Ext) | None | None | VII.J-21 | 3.3.1.96 | C |
| Structural Steel | MB SS | Carbon Steel | Plant Indoor Air (Structural) (Ext) | Loss of material | Structures Monitoring Program (B2.1.32) | III.A4-5 | 3.5.1.25 | A |
| Tendons | SS | Carbon Steel | Atmosphere/ Weather (Structural) (Ext) | Loss of prestress | Time-Limited Aging Analysis evaluated for the period of extended operation | II.A1-9 | 3.5.1.07 | A |
| Tendons | SS | Carbon Steel | Atmosphere/ Weather (Structural) (Ext) | Loss of material | ASME Section XI, Subsection IWL (B2.1.28) | II.A1-10 | 3.5.1.22 | A |

Notes for Table 3.5.2-1:

Standard Notes:

A Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.

B Consistent with NUREG-1801 item for component, material, environment, and aging effect. AMP takes some exceptions to NUREG-1801 AMP.

C Component is different, but consistent with NUREG-1801 item for material, environment, and aging effect. AMP is consistent with NUREG-1801 AMP.

J Neither the component nor the material and environment combination is evaluated in NUREG-1801.

Plant Specific Notes:

1 NUREG-1801 does not address aging of Thermo-Lag materials.