# CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9904290295 DOC.DATE: 99/04/21 NOTARIZED: NO DOCKET #
FACIL:STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528
STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530
AUTH.NAME AUTHOR AFFILIATION
IDE,W.E. Arizona Public Service Co. (formerly Arizona Nuclear Power
RECIP.NAME RECIPIENT AFFILIATION
Records Management Branch (Document Control Desk)

SUBJECT: Forwards rev to relief request 12 submitted 990420 to second 10-yr ISI interval.Revised relief request discusses in more detail actions APS will take when there is identified leakage from bolted connection.

DISTRIBUTION CODE: A047D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: OR Submittal: Inservice/Testing/Relief from ASME Code - GL-89-04

NOTES:STANDARDIZED PLANT 05000528
Standardized plant. 05000529
Standardized plant. 05000530

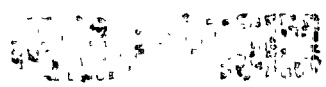
| | RECIPIENT ID CODE/NAME | COPIES LTTR | COPIES ENCL | RECIPIENT ID CODE/NAME | COPIES LTTR | COPIES ENCL |
|---|---|---|---|---|---|---|
| | DLPM/LPD4-2 | 1 | 1 | DLPM/LPD4-2 | 1 | 1 |
| | FIELDS,M | 1 | 1 | | | |
| INTERNAL: | ACRS | 1 | 1 | FILE CENTER 01 | 1 | 1 |
| | NRR/DE/EMEB | 1 | 1 | NUDOCS-ABSTRACT | 1 | 1 |
| | OGC/HDS2 | 1 | 0 | RES/DET/EIB | 1 | 1 |
| | RES/DET/EMMEB | 1 | 1 | | | |
| EXTERNAL: | LITCO ANDERSON | 1 | 1 | NOAC | 1 | 1 |
| | NRC PDR | 1 | 1 | | | |

MICROFILMED

NOTE TO ALL "RIDS" RECIPIENTS:
PLEASE HELP US TO REDUCE WASTE. TO HAVE YOUR NAME OR ORGANIZATION REMOVED FROM DISTRIBUTION LISTS OR REDUCE THE NUMBER OF COPIES RECEIVED BY YOU OR YOUR ORGANIZATION, CONTACT THE DOCUMENT CONTROL DESK (DCD) ON EXTENSION 415-2083

TOTAL NUMBER OF COPIES REQUIRED: LTTR 13 ENCL 12

MAY



APS
Commitment. Innovation. Energy.

Palo Verde Nuclear Generating Station

William E. Ide
Vice President
Nuclear Engineering

TEL 602/393-6116
FAX 602/393-6077

Mail Station 7605
P.O. Box 52034
Phoenix, AZ 85072-2034

10CFR50.55a(a)(3)

102-04274-WEI/AKK/RKB
April 21, 1999

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-37
Washington, DC 20555-0001

Dear Sirs:

References: APS Letter No. 102-04273-WEI/AKK/TNW/RKB, dated April 20, 1999, from W. E. Ide, APS, to NRC, "Second Inservice Inspection Interval – (Relief Request Nos. 11 and 12)."

**Subject:** **Palo Verde Nuclear Generating Station (PVNGS)**
**Units 1, 2 and 3**
**Docket Nos. STN 50-528/529/530**
**Revision to Second Inservice Inspection Interval – (Relief Request No. 12)**

On April 20, 1999, Arizona Public Service Company (APS) submitted Relief Request Nos. 11 and 12 to the second 10-year Inservice Inspection (ISI) interval in the above referenced letter. Enclosed is a revision to Relief Request No. 12, which supersedes the previous version submitted in the referenced letter. The enclosed relief request does not contain substantive changes from the original, but has been rewritten to provide added detail and clarification. Specifically, the revised relief request discusses in more detail the actions APS will take when there is identified leakage from a bolted connection.

APS wishes to reconfirm that NRC approval for Relief Request Nos. 11 and 12 is requested by April 26, 1999.

APS considers the Alternate Testing methodology proposed in Relief Request No. 12 to be a commitment.

Should you have any questions, please contact Scott A. Bauer at (602) 393-5978.



Sincerely,

WEI/AKK/RKB/rlh

Enclosure.

cc: E. W. Merschoff
M. B. Fields
J. H. Moorman

200045

# ENCLOSURE 1

# ASME SECTION XI RELIEF REQUEST NO. 12

# TO THE SECOND 10 YEAR ISI INTERVAL

# FOR THE PALO VERDE NUCLEAR GENERATING STATION

## Relief Request No. 12

## Examination of Bolted Connections

| | |
|---|---|
| **Code Class** | 1, 2, 3 |
| **Code Reference** | IWA-5250(a), 1989 Ed. and IWA-5250(a), 1992 Ed., 1992A |
| **Examination Category** | B-P, C-H, D-B |
| **Item Numbers** | All |
| **Component Description** | Bolted Connections |
| **PVNGS Units** | All |

Requirement

IWA 5250 (a) states: "The sources of leakage detected during the conduct of a system pressure test shall be located and evaluated by the Owner for corrective action as follows. .....(2) If leakage occurs at a bolted connection, one of the bolts shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100. The bolt selected shall be the one closest to the source of leakage. When the removed bolt has evidence of degradation, all remaining bolting in the connection shall be removed, VT-3 examined, and evaluated in accordance with IWA-3100."

Alternate Testing

PVNGS proposes the following alternative methodology to the requirements of IWA-5250(a), either the requirements of (a) or (b) below will be met for leakage at bolted connections:

(a) The leakage shall be stopped, and the bolting and component material shall be evaluated for joint integrity as described in (c) below.
(b) If the leakage is not stopped, the joint shall be evaluated in accordance with IWB-3142.4 for joint integrity. This evaluation shall include the considerations listed in (c) below.
(c) The evaluation for (a) and (b) above, is to determine the suseptibility of the bolting to corrosion and failure. This evaluation will, at a minimum, consider the following factors:

(1) The number and service age of bolts,
(2) Bolt and component material,
(3) Corrosiveness of the process fluid,
(4) Leakage location and system function,
(5) Leakage history at connection or other system components, and
(6) Visual evidence of corrosion at connection (while the connection is assembled).

| | |
|---|---|
| Alternate Testing (Continued) | If the evaluation of the variables above indicates the need for further evaluation, then a bolt closest to the source of leakage shall be removed. The bolt will receive a VT-1 examination and be evaluated and dispositioned in accordance with IWB-3517 of the ASME Code, Section XI. If the removed bolting shows evidence of rejectable degradation, all remaining bolts shall be removed and receive a VT-1 examination in accordance with IWB-3140. If the leakage is identified when the bolted connection is in service and the information in the engineering evaluation is supportive, the removal of the bolt for the VT-1 examination may be deferred until the next refueling outage. |
| Basis For Relief | Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested on the basis that the proposed alternative would provide an acceptable level of quality and safety. Specifically, PVNGS is asking for relief from the requirement to remove bolts without prior analysis to allow for instances where removal may not be warranted.<br><br>Removal of pressure retaining bolting at mechanical connections for visual, VT-3 examination and subsequent evaluation in locations where leakage has been identified is not always the most prudent course of action to determine the condition of the bolting and root cause of the leak.<br><br>The Code requirement to remove, examine and evaluate bolting in this situation does not allow the Owner to consider other factors that may indicate the condition of the mechanical joint bolting. This requirement is unnecessarily prescriptive and restrictive. |
| Additional Information | A situation frequently encountered at commercial nuclear plants such as PVNGS is the complete replacement of bolting materials (studs, bolts, nuts, washers, etc.) at mechanical joints during plant outages. When associated system process piping is pressurized during plant start-up, leakage is sometimes identified at these joints. The root cause of this leakage is most often thermal expansion of the piping and bolting materials at the joint, which results in process fluid seepage at the joint gasket. Proper retorquing of the joint bolting, in most cases, stops the leakage. Removal of any of the joint bolting to evaluate for corrosion would be unwarranted in this situation due to the new condition of the bolting materials. |

Approval

In accordance with 10 CFR 50.55a(3)(a)(i) PVNGS is requesting permission to use the proposed alternative. PVNGS will not implement this alternative without prior authorization from the NRC.

References

1. ASME Section XI, Rules for Inspection and Testing of Components of Light Water Cooled Plants 1992 Edition and Addenda, Section IWA-5000.
2. ASME Section XI, Rules for Inspection and Testing of Components of Light Water Cooled Plants 1989 Edition, Section IWA-5000.