ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9207070337 DOC.DATE: 92/06/27 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
CONWAY,W.F. Arizona Public Service Co. (formerly Arizona Nuclear Power
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Forwards response to Rev 1 to Generic Ltr 92-01 re reactor vessel structural integrity.Embrittlement effects of operating at irradiation temps below 525 F not considered in TS 3.1.1.4.

DISTRIBUTION CODE: A028D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 7
TITLE: Generic Letter 92-01 Responses (Reactor Vessel Structural Integrity 1

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
	PD5 LA	1	1	PD5 PD	1	1
	TRAMMELL,C	2	2	THOMPSON,M	2	2
INTERNAL:	ACRS	6	6	NRR MCDONALD,D	1	1
	NRR/DET/ECMB	2	2	NUDOCS-ABSTRACT	1	1
	OC/LFMB	1	0	OGC/HDS1	1	0
	REG FILE 01	1	1	RES/DSIR/EIB	1	1
EXTERNAL:	NRC PDR	1	1	NSIC	1	1

K. Wickman
B. Elliot

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR ~~22~~ 24 ENCL ~~20~~ 22

RIDS/ADDS

RIDS/ADDS

Arizona Public Service Company
P.O. BOX 53999 • PHOENIX, ARIZONA 85072-3999

WILLIAM F. CONWAY
EXECUTIVE VICE PRESIDENT
NUCLEAR

102-02191-WFC/TRB/RAB
June 27, 1992

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

Reference: Generic Letter 92-01, Revision 1, dated March 6, 1992, from J. G. Partlow, NRC, to All Holders of Operating Licenses or Construction Permits for Nuclear Power Plants (Except Yankee Atomic Electric Company, Licensee for the Yankee Nuclear Power Station), Reactor Vessel Structural Integrity, 10 CFR 50.54 (f).

Dear Sirs:

Subject: PALO VERDE NUCLEAR GENERATING STATION (PVNGS)
UNITS 1, 2, AND 3
Docket Nos. STN 50-528/529/530
RESPONSE TO GENERIC LETTER 92-01, REVISION 1,
REACTOR VESSEL STRUCTURAL INTEGRITY, 10 CFR 50.54 (F)
File: 92-056-026, 92-010-026

The referenced letter requested licensees to provide specific information concerning Reactor Vessel Structural Integrity. The enclosure to the letter provides the information requested for the three PVNGS reactor vessels.

Please contact Thomas R. Bradish at (602) 393-5421 if you have any questions.

Sincerely,

WFC/TRB/RAB/dmn

Enclosure

cc: J. B. Martin
D. H. Coe
A. C. Gehr
A. H. Gutterman
K. Cozens (NUMARC)

Add: D. McDonald
K. Wichman
B. Elliot

A028
1/1

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, W. F. Conway, represent that I am Executive Vice President - Nuclear, that the foregoing document has been signed by me on behalf of Arizona Public Service Company with full authority to do so, that I have read such document and know its contents, and that to the best of my knowledge and belief, the statements made therein are true and correct.

W. F. Conway

Sworn To Before Me This 27 Day Of June, 1992.

Notary Public

My Commission Expires

My Commission Expires April 6, 1995

ENCLOSURE

RESPONSE TO GENERIC LETTER 92-01, REVISION 1
REACTOR VESSEL STRUCTURAL INTEGRITY

RESPONSE TO
GENERIC LETTER 92-01, REVISION 1
REACTOR VESSEL STRUCTURAL INTEGRITY

NRC Concern 1

Addressees who do not have a surveillance program meeting ASTM E 185-73, -79, or -82 and who do not have an integrated surveillance program approved by the NRC (see Enclosure 2), are requested to describe actions taken or to be taken to ensure compliance with Appendix H to 10 CFR Part 50. Addressees who plan to revise the surveillance program to meet Appendix H to 10 CFR Part 50 are requested to indicate when the revised program will be submitted to the NRC staff for review. If the surveillance program is not to be revised to meet Appendix H to 10 CFR Part 50, addressees are requested to indicate when they plan to request an exemption from Appendix H to 10 CFR 50 under 10 CFR 50.60(b).

APS Response

Section 5.3.1.4 of NUREG-0857, The Safety Evaluation Report Related to the Operation of Palo Verde Nuclear Generating Station, provides the staff's conclusion that the PVNGS Unit 1 reactor vessel surveillance program provides a level of safety equivalent to that provided by ASTM E 185-73 and Appendix H to 10 CFR Part 50.

In Section 5.3.1 of Supplement 9 to NUREG-0857, the "staff has determined that the PVNGS 2 and 3 reactor vessel surveillance programs meet the requirements of Appendix H of 10 CFR 50 and ASTM E-185."

No further action is required.

NRC Concern 2. a.

Addressees of plants for which the Charpy upper shelf energy is predicted to be less than 50 foot-pounds at the end of their licenses using the guidance in Paragraphs C.1.2 or C.2.2 in Regulatory Guide 1.99, Revision 2, are requested to provide to the NRC the Charpy upper shelf energy predicted for December 16, 1991, and for the end of their current license for the limiting beltline weld and the plate or forging and are requested to describe the actions taken pursuant to Paragraphs IV.A.1 or V.C of Appendix G to 10 CFR Part 50.

APS Response

The Charpy upper shelf energy for all of the beltline plates and welds, for the three PVNGS units at the end of their respective licenses, is predicted to exceed the minimum 50 foot-pounds required by 10 CFR 50, Appendix G. The upper shelf energy prediction was made using the guidance in Regulatory Guide 1.99, Revision 2.

No further action is required.

NRC Concern 2. b.

Addressees whose reactor vessels were constructed to an ASME Code earlier than the Summer 1972 Addenda of the 1971 Edition are requested to describe the consideration given to the following material properties in their evaluations performed pursuant to 10 CFR 50.61 and Paragraph III.A of 10 CFR Part 50, Appendix G:

(1) the results from all Charpy and drop weight tests for all unirradiated beltline materials, the unirradiated beltline materials, the unirradiated reference temperature for each beltline material, and the method of determining the unirradiated reference temperature from the Charpy and drop weight test;

(2) the heat treatment received by all beltline and surveillance materials;

(3) the heat number for each beltline plate or forging and the heat number of wire and flux lot number used to fabricate each beltline weld;

(4) the heat number for each surveillance plate or forging and the heat number of wire and flux lot number used to fabricate the surveillance weld;

(5) the chemical composition, in particular the weight in percent of copper, nickel, phosphorous, and sulfur for each beltline and surveillance material; and

(6) the heat number of the wire used for determining the weld metal chemical composition if different than Item (3) above.

APS Response

The three PVNGS reactor vessels were constructed to the Winter 1973 Addenda to the 1971 Edition of the ASME Boiler and Pressure Vessel Code, Section III.

No further action is required.

NRC Concern 3.a.

How the embrittlement effects of operating at an irradiation temperature (cold leg or recirculation suction temperature) below 525 °F were considered. In particular licensees are requested to describe consideration given to determining the effect of lower irradiation temperature on the reference temperature and on the Charpy upper shelf energy.

APS Response

The embrittlement effects of operating at irradiation temperatures below 525 °F were not considered since Technical Specification 3.1.1.4, for the three PVNGS units, specifies that the lowest operating loop temperature (Tcold) shall be greater than 552 °F in Modes 1 and 2. Additionally, Technical Specification 4.1.1.4, for the three PVNGS units, requires that Reactor Coolant System temperature (Tcold) shall be determined to be greater than or equal to 552 °F:

a. Within 15 minutes prior to achieving reactor criticality and

b. At least once per 30 minutes when the reactor is critical and the Reactor Coolant System Tcold is less then 557 °F.

Additionally, Technical Specification 3.2.6, for the three PVNGS units, requires reactor coolant cold leg temperature to be greater than or equal to 562 °F when reactor power is 90% or greater.

These operating limits are also stated in the PVNGS operating procedures. Therefore, reactor operation occurs well above the 525 °F temperature of concern.

No further action is required.

NRC Concern 3.b and 3.c

b. How their surveillance results on the predicted amount of embrittlement were considered.

c. If a measured increase in reference temperature exceeds the mean-plus-two standard deviations predicted by Regulatory Guide 1.99, Revision 2, or if a measured decrease in Charpy upper shelf energy exceeds the value predicted using the guidance in Paragraph C.1.2 in Regulatory Guide 1.99, Revision 2, the licensee is requested to report the information and describe the effect of the surveillance results on the adjusted reference temperature and Charpy upper shelf energy for each beltline material as predicted for December 16, 1991, and for the end of its current license.

APS Response

Currently, the surveillance program at PVNGS has not required the withdrawal and evaluation of a surveillance specimen capsule. The first capsule is scheduled to be removed during the next Unit 2 refueling outage, scheduled for the Spring of 1993. Upon withdrawal of the capsule, APS will perform testing, evaluation, and reporting as required by 10 CFR 50, Appendix H. In addition, the results will be considered with respect to 10 CFR 50, Appendix G. requirements.