REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8509050135 DOC.DATE: 85/08/30 NOTARIZED: YES DOCKET #
FACIL: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
VAN BRUNT,E.E. Arizona Nuclear Power Project (formerly Arizona Public Serv
RECIP.NAME RECIPIENT AFFILIATION
KNIGHTON,G.W. Licensing Branch 3

SUBJECT: Forwards changes to FSAR Sections 11.3.2.1,10.4.4.2, 3.8.1.2.2 & 9.5.4.4,reflecting correction of closure time listed for turbine bypass valves & applicable code for containment bldg design.

DISTRIBUTION CODE: B001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 8
TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES:Standardized plant. 05000529
Standardized plant. 05000530

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	NRR/DL/ADL		1	0	NRR LB3 BC		1	0
	NRR LB3 LA		1	0	LICITRA,E	01	1	1
INTERNAL:	ACRS	41	6	6	ADM/LFMB		1	0
	ELD/HDS3		1	0	IE FILE		1	1
	IE/DEPER/EPB	36	1	1	IE/DQAVT/QAB	21	1	1
	NRR ROE,M.L		1	1	NRR/DE/AEAB		1	0
	NRR/DE/CEB	11	1	1	NRR/DE/EHEB		1	1
	NRR/DE/EQB	13	2	2	NRR/DE/GB	28	2	2
	NRR/DE/MEB	18	1	1	NRR/DE/MTEB	17	1	1
	NRR/DE/SAB	24	1	1	NRR/DE/SGEB	25	1	1
	NRR/DHFS/HFEB	40	1	1	NRR/DHFS/LQB	32	1	1
	NRR/DHFS/PSRB		1	1	NRR/DL/SSPB		1	0
	NRR/DSI/AEB	26	1	1	NRR/DSI/ASB		1	1
	NRR/DSI/CPB	10	1	1	NRR/DSI/CSB	09	1	1
	NRR/DSI/ICSB	16	1	1	NRR/DSI/METB	12	1	1
	NRR/DSI/PSB	19	1	1	NRR/DSI/RAB	22	1	1
	NRR/DSI/RSB	23	1	1	REG FILE	04	1	1
	RGN5		3	3	RM/DDAMI/MIB		1	0
EXTERNAL:	24X		1	1	BNL(AMDTS ONLY)		1	1
	DMB/DSS (AMDTS)		1	1	LPDR	03	1	1
	NRC PDR	02	1	1	NSIC	05	1	1
	PNL GRUEL,R		1	1				

TOTAL NUMBER OF COPIES REQUIRED: LTTR 52 ENCL 44

Arizona Nuclear Power Project
P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

Director of Nuclear Reactor Regulation
Attention: Mr. George W. Knighton, Chief
Licensing Branch 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

August 30, 1985
ANPP-33313-EEVB/JKO

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 2 and 3
Change to PVNGS FSAR (Chapters 3, 9, 10, and 11)
Docket Nos. STN-50-529/530
File: 85-056-026; G.1.01.10

Dear Mr. Knighton:

Attached for your review on PVNGS Units 2 and 3 are FSAR changes to sections 11.3.2.1, 10.4.4.2, 3.8.1.2.2, and 9.5.4.4. These changes involve: (1) revising the FSAR to show that the waste gas compressors stop filling the waste gas decay tanks when the surge tank pressure reaches 1.5 psig which corresponds to a pressure of 0.5 psig at the suction side of the compressors; (2) correcting the closure time listed for the turbine bypass valves; (3) correcting the FSAR to reflect the applicable code for the design of the containment building; (4) clarifying that the diesel fuel oil storage tank capacity versus inventory is a 14-day total plus a 15% margin to preclude an error in interpretation that the tanks must be maintained 100% full.

We believe these changes are justified because: (1) the pressure setpoint for the low pressure switch was changed to 1.5 psig due to a change to the physical location of this pressure sensor and this ensures that the suction pressure for the compressor will not be below 0.5 psig; (2) correcting the closure time for the turbine bypass valves aligns the FSAR with CESSAR, and system analysis and NSSS plant licensing are based on the requirements of CESSAR; (3) the wrong code was referenced in the FSAR and needed correcting to apply to containment design, not construction; (4) the Standard Review Plan, PVNGS SER and the Technical Specifications are all based on a 7 day inventory for both diesel generators rather than the total capacity of the tanks as being required for diesel generator operation.

For PVNGS Unit 1, safety reviews and evaluations have been completed for implementation of these changes in accordance with the requirements of 10CFR 50.59. The safety reviews and evaluations have determined that there are no unreviewed safety questions involved with the changes. These changes will be included in the next FSAR update.

B001
1/1

If you have any questions concerning these changes, please contact W. F. Quinn of my staff.

Very truly yours,

E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/JKO/s1h
Attachment

cc: E. A. Licitra
M. C. Ley
R. P. Zimmerman
A. C. Gehr

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

I, Edwin E. Van Brunt, Jr., represent that I am Executive Vice President, Arizona Nuclear Power Project, 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.

Edwin E. Van Brunt

Edwin E. Van Brunt, Jr.

Sworn to before me this 30 day of August, 1985.

Nora E. Meador
Notary Public

My Commission Expires:

My Commission Expires April 6, 1987

bcc: D. B. Karner
J. G. Haynes
R. M. Butler
W. E. Ide
E. C. Sterling
A. C. Rogers
W. F. Quinn
T. F. Quan
LCTS Coordinator
K. W. Gross
J. M. Allen
J. R. Bynum
J. Orlowski
L. G. Papworth
A. J. McCabe
J. D. Houchen
S. Shapiro
C. F. Ferguson
SARCN Nos.: 2026, 2042, 2044, 2045

Sources for the GRS include the gases from:

- Reactor drain tank
- Volume control tank
- Refueling failed fuel detectors
- Gas stripper
- Reactor vessel vent

The high-activity gases accumulate in the waste gas surge tank and are compressed and stored in the waste gas decay tanks. When the surge tank pressure reaches 3 psig, the compressor selected for operation starts automatically and starts charging the online decay tank. If the surge tank pressure reaches 3.5 psig the standby compressor will automatically start. Operation of either compressor automatically stops when the surge tank pressure decreases to (INSERT A) 0.5 psig. When decay tank pressure reaches 350 psig, an alarm is actuated, and compressor operation is terminated manually. Identical compressors are provided to minimize system down time.

Each decay tank is sampled prior to discharge. No special mixing is considered necessary for the gas. Each sample is analyzed for radioactivity and the concentration, volume, and total radioactivity are recorded. Isotopic content of the waste gases is determined and recorded as specified in the station manual procedures.

The maximum rates and quantities of radionuclides released from the gaseous waste decay tanks will be in accordance with the limits imposed by the Plant Technical Specifications. The rate of release from the decay tanks into the ventilation exhaust is limited so as not to exceed the release limits of 10CFR20. Releases are conducted to meet the "as low as is reasonably achievable" objectives of 10CFR50 Appendix I.

14

INSERT A: 1.5 psig, corresponding to a compressor suction pressure of

Six of these valves direct steam to the condenser and the remaining two vent directly to the atmosphere.

The valves are designed to fully open ~~or close~~ within 1 second and fully close within 5 seconds or to modulate full open or closed in a minimum of 15 seconds and a maximum of 20 seconds. The valves are equipped with remote-operated handwheels to permit manual operation at the valve location.

The two valves which exhaust to the atmosphere are the last to open and the first to close during load rejections, thus minimizing the quantity of steam discharged to the environment. The valves and piping for the system are located in the turbine building.

The valves in the turbine bypass system are designed to fail closed to prevent uncontrolled bypass of steam. Should the bypass valves fail to open on command, the main steam safety valves provide main steam line overpressure protection, and the power-operated atmospheric dump valves provide a means for controlled cooldown of the reactor. The main steam safety valves and power operated atmospheric dump valves are described in section 10.3.2.2.

In the event of a turbine trip, the amounts of radioactivity released and the resultant off-site doses are those stated in section 15.2. The main steam safety valves and power-operated atmospheric dump valves are used to control the load transient, if the bypass valves are disabled. Because the ASME Code safety valves provide the ultimate overpressure protection for the steam generators, the turbine bypass system is defined as a control system and is designed without consideration for the special requirements applicable to protection systems. Failure of this system will have no detrimental effects on the reactor coolant system.

3.8.1.2 Applicable Codes, Standards, and Specifications

The following codes, standards, regulations, specifications, design criteria, and NRC Regulatory Guides constitute the basis for the design, fabrication, construction, testing, and inservice inspection of the containment structures. Modifications to these codes, standards, etc. are made when necessary to meet the specific requirements of the structure. These modifications are indicated in the sections where references to the codes and standards are made. Later editions of certain baseline standards as noted in subsequent sections are acceptable providing they are identified in applicable design calculations or specifications for fabrication, construction, testing, or inspection. 12

3.8.1.2.1 Regulations

The following regulations apply to containment design.

- Code of Federal Regulations, Title 10-Atomic Energy, Part 50, Domestic Licensing of Production and Utilization Facilities, 1972
- Code of Federal Regulations, Title 29-Labor, Part 1910, Occupational Safety and Health Standards, 1972

3.8.1.2.2 Codes and Standard Specifications

The following codes and standards are applicable to containment design.

- American Concrete Institute, Building Code Requirements for ~~Structural~~ Reinforced Concrete (ACI ~~301-72~~ 318-71).
  - In the containment design, portions of this code, particularly chapters 18, 19, and Appendix A, are superseded by the other provisions described in section 3.8.1.
- American Institute for Steel Construction (AISC) Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, adopted February 12, 1969 and Supplements No. 1, 2, and 3, or later edition. 12

transfer pump from a switch in the main control room. If the transfer pump still fails to operate, a low level day tank alarm is actuated to alert the operator to take corrective action. Fuel can then be supplied from the redundant train by opening valves on an interconnecting line and the diesel generator may be allowed to continue running.

The automatic pump in the system also may be actuated manually by the operator from the control room or from the diesel generator room local control panel.

9.5.4.4 Safety Evaluation

Safety evaluations are numbered to correspond to the safety design bases and include the following:

A. Safety Evaluation One

The capacity of each of the underground diesel generator fuel oil storage tanks is sufficient for 7-day operation plus a 15% margin of each of the diesel generators using ASTM D-975 diesel fuel oil, having 28API gravity, high heating value of 19,350 Btu/lb, and a low heating value of 18,190 Btu/lb, at the largest actual operating load indicated in section 8.3. Cross connect lines with double locked closed valves are provided so that either transfer pump can discharge to the fuel oil day tank serving the redundant diesel generator. The cross connect piping and valves are designed as Seismic Category I. Thus, a 14-day total capacity plus a 15% margin diesel fuel oil ~~inventory~~ is available for operation of one diesel generator during a complete loss of offsite electrical power. Within this period, additional fuel can be delivered to the plant site by truck, rails, or helicopter.