NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Palo Verde Unit 1	0 5 0 0 0 5 2 8	1 OF 0 2

TITLE (4)

Unanalyzed Safety Condition - Auxiliary Feedwater System

EVENT DATE (5)			LER NUMBER (6)					REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
												0 5 0 0 0
0 2	0 4	8 5	8 5	–	0 0 8	–	0 0	0 3	0 6	8 5		0 5 0 0 0

OPERATING MODE (9)	5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	X 50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
William F. Quinn (Extension 6087)	6 0 2 9 4 3 – 7 2 0 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 6	0 6	8 5

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

The assumption in the CESSAR-F Chapter 15 Safety Analyses regarding the delivery of auxiliary feedwater flow states that the maximum flow delivery to the steam generators following automatic actuation is 1750 GPM. Recent analysis and close examination of pump head-flow curves indicate that auxiliary feedwater flow rates may exceed 1750 GPM for some accidents. It was then assumed that operator action would prevent this from occurring.

However, after meeting with the Architect - Engineer and the NSSS vendor on 02/04/85, it was determined that operator action could not be guaranteed to prevent the occurrence since it occurs very soon after actuation of the automatic feedwater signal. At this time it was realized that the plant, as built, may not meet the criteria established in the Chapter 15 Safety Analysis assumptions.

Preliminary results from subsequent analyses show that even though the feedwater flow rate may be exceeded, there is no decrease in the safety margin of the analysis.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Palo Verde Unit 1	0 5 0 0 0 5 2 8	8 5	— 0 0 8	— 0 0	0 2 OF 0 2

TEXT (If more space is required, use additional NRC Form 366A's) (17)

The CESSAR-F Chapter 15 Safety Analyses, which is the referenced safety analysis for the Palo Verde Nuclear Generating Station (PVNGS), assumes that the maximum auxiliary feedwater flow rate to the steam generators following an automatic actuation is 1750 GPM. Contrary to this assumption, recent analysis coupled with close examination of actual pump head flow curves indicates that actual flow could exceed the assumed maximum.

The PVNGS design has two class 1E Auxiliary Feedwater Pumps, each having a motor operated discharge isolation valve and a motor operated flow control valve. Both of the valves receive a signal to open fully on an Auxiliary Feedwater Actuation Signal (AFAS) when a steam generator water level decreases below a preset level. Since there are no other flow restrictions in the pump discharge lines, a decreased pressure in the steam generators with an AFAS could cause the flow rate to exceed 1750 GPM. An assumption was made that operator action would prevent exceeding the maximum assumed flow.

On February 4, 1985, a meeting was held with the NSSS vendor, the Architect-Engineer, and ANPP. Discussions led to the conclusion that for certain types of accidents, i.e., Main Steam Line Break (MSLB), the pressure decrease in the steam generator is rapid enough to cause the maximum flow rate to be exceeded in less than one minute. During this kind of occurrence, exceeding the flow rate in the Safety Analysis should not be assumed to be mitigated by operator action for up to several minutes into the accident. Since crediting operator action is not proper in this case, it appeared that the as-built plant was not adequately covered by the existing safety analyses.

Subsequent analysis have been performed using increased auxiliary feedwater flow rates. Preliminary results indicate that although flow rates are higher than assumed previously, DNBR increases at flow rates beyond 1750 GPM resulting in an increase in safety margin.
The results of the new analysis will be transmitted in a supplement to this report.

Arizona Nuclear Power Project
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ANPP-32081-EEVB/WFQ
March 6, 1985

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Unit 1
Docket No. STN 50-528, License No. NPF-34
Licensee Event Report
File: 85-056-026; G.1.01.10

Dear Sirs:

Attached please find Licensee Event Report (LER) No. 85-008-00 prepared and submitted pursuant to 10 CFR 50.73. By copy of this letter we are also forwarding a copy of the LER to the Regional Administrator of the Region V Office.

If you have any questions or concerns, please contact me.

Very truly yours,

E. E. Van Brunt

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

EEVB/GEC/mb
Attachment

cc: J. B. Martin
R. P. Zimmerman
E. A. Licitra
A. C. Gehr
INPO Records Center

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