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January 24, 1997
NPD1VPO:0584

*Beaver Valley Power Station, Unit No. 1
Docket No. 50-334 License No. DPR-66
LER 96-013-00*

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

In accordance with Appendix A, Beaver Valley Technical Specifications, the following Licensee Event Report is submitted:

LER 96-013-00, 10 CFR 50.73(a)(2)(i), "Failure to Perform Gaseous Waste Disposal System Oxygen Testing as Required by Technical Specifications."

R. L. LeGrand
Division Vice President
Nuclear Operations

LB/ds

Attachment

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January 24, 1997

NPD1VPO:0584

Page 2

cc: Mr. H. J. Miller, Regional Administrator
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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1) Beaver Valley Power Station Unit 1						DOCKET NUMBER (2) 05000334			PAGE (3) 1 OF 4				
TITLE Failure to Perform Gaseous Waste Disposal System Oxygen Testing as Required by Technical Specifications													
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 NAME Beaver Valley Power Station Unit 2	DOCKET NUMBER 05000412			
11	30	96	96	013	00	01	24	97	N/A				
OPERATING MODE (9)		1	20.402(b)			20.405(c)			50.73(a)(2)(iv)		73.71(b)		
POWER LEVEL (10)		100%	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)		X OTHER		
			20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)		(Specify in abstract below and in Text		
			20.405(a)(1)(iv)			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)		NRC Form 366A)		
LICENSEE CONTACT FOR THIS LER (12)													
NAME R. L. LeGrand, Vice President Nuclear Operations and Plant Manager						TELEPHONE NUMBER (include Area Code) (412) 393-7622							
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
YES (if yes, complete EXPECTED SUBMISSION DATE)						X	NO						

ABSTRACT (Limited to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On December 26, 1996, at 1030 hours, Beaver Valley Power Station Unit 1 was in Mode 1 at 100% power. While preparing to perform a calibration procedure, an Instrumentation and Controls (I&C) technician discovered the power switch to the oxygen analyzers for the Gaseous Waste Disposal System to be in the "Off" position. Subsequent review and investigation completed January 6, 1997, identified that the oxygen analyzers may have been de-energized, and therefore inoperable, since November 25, 1996. In accordance with plant Technical Specifications (TS) Limiting Condition for Operation (LCO) 3.3.3.11, with both oxygen analyzers inoperable, grab samples must be obtained every 4 hours during degassing operations and at least once per 24 hours during other operations. Plant records show that during the period from November 25, 1996 to December 26, 1996, Unit 1 waste gas compressor operations occurred on two occasions - November 27, 1996 and November 30, 1996. Contrary to Technical Specification requirements, grab samples were not taken and analyzed. This is an operation or condition prohibited by the plant's Technical Specifications, and is reportable pursuant to the requirements of 10CFR50.73(a)(2)(i). This event is also reportable pursuant to the requirements of TS LCO 3.3.3.11, action statement b, which requires a Special Report to the NRC pursuant to TS 6.9.2 and which is satisfied by this report.

The causes of this event were determined to be operator error and inadequate operating logs. The Waste Decay Tank Oxygen Analyzers were apparently de-energized when the main power switch was inadvertently positioned instead of the pressure override switch during performance of the oxygen analyzer reset procedure at 2345 hours on November 25, 1996. Since plant operating logs did not require verification of oxygen analyzer operability, this was not identified via routine checks.

There were no automatically or manually initiated safety system responses in response to this event.

Samples were obtained from Unit 1 Waste Gas Surge Tank and analyzed on December 26, 1996 at 1450 and 1930 hours. Both samples were less than 1% by volume oxygen. The oxygen analyzers were restored to the proper control switch alignment. Short duration waste gas compressor operations on November 27, 1996 and November 30, 1996 were performed for maintenance to verify proper compressor operation after repair. No Unit 1 degassing operations took place during the period the oxygen analyzers were out of service. Based upon this information, there were no implications to the health and safety of the public as a result of this event.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 1	05000334	96	013	00	2 OF 4

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

PLANT AND SYSTEM IDENTIFICATION

Westinghouse - Pressurized Water Reactor (PWR)

Gaseous Waste Disposal System {WE}*

Overhead Waste Gas Compressors - 1GW-C-1A, 1B {WE/CMP}*

Waste Gas Decay Tanks - 1GW-TK-1A, 1B, 1C {WE/TK}*

Waste Gas Surge Tank - 1GW-TK-2 {WE/TK}*

Waste Gas Decay Tank Oxygen Analyzers - O2AS-1GW-110-1, 2 {WE/AI}*

* Energy Industry Identification System (EIIS) plant System and Component Codes are identified in the text as {EIIS:SS/CCC}.

CONDITIONS PRIOR TO OCCURRENCE

Unit 1: Mode 1, 100% Reactor Power

Unit 2: Mode 3, 0% Reactor Power

DESCRIPTION OF THE EVENT

On December 26, 1996, at 1030 hours, Beaver Valley Power Station Unit 1 was in Mod: 1 at 100% power. While preparing to perform a calibration procedure, an Instrumentation and Controls (I&C) technician discovered the power switch to the Waste Gas Decay Tank Oxygen Analyzers {EIIS:WE/AI} for the Gaseous Waste Disposal System {EIIS:WE} to be in the "Off" position. Subsequent review and investigation completed January 6, 1997, identified that the oxygen analyzers may have been de-energized, and therefore inoperable, since November 25, 1996 at 2345 hours. In accordance with plant Technical Specifications (TS) Limiting Condition for Operation (LCO) 3.3.3.11, with both oxygen analyzers inoperable, grab samples must be obtained every 4 hours during degassing operations and at least once per 24 hours during other operations. Plant records show that during the period from November 25, 1996 to December 26, 1996, short duration Unit 1 Waste Gas Compressor 1GW-C-1B{EIIS:WE/CMP} operations occurred on two occasions - November 27, 1996 and November 30, 1996. Contrary to Technical Specification requirements, grab samples were not taken and analyzed.

There were no automatically or manually initiated safety system responses in response to this event.

CAUSE OF THE EVENT

The causes of this event were determined to be operator error and inadequate operating logs. The Waste Decay Tank Oxygen Analyzers were apparently de-energized when the main power switch was inadvertently positioned instead of the pressure override switch during performance of the oxygen analyzer reset procedure at 2345 hours on November 25, 1996. Since plant operating logs did not require verification of oxygen analyzer operability, this was not identified via routine checks.

ANALYSIS OF THE EVENT

Investigation of this event revealed that the oxygen analyzers had been out of service (inoperable) for approximately 30 days. Operating logs show that at 2345 hours on November 25, 1996, an Operator reset the oxygen analyzers. This is accomplished by first pushing in on the pressure override switch for each respective oxygen analyzer, then pulling out on the switch to normalize.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Beaver Valley Power Station Unit 1	05000334	96	013	00	3 OF 4

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

It is postulated that the Operator pulled out the power switch and turned off both oxygen analyzers when he thought he was restoring the pressure override switch to the normal (pulled out) position for analyzer O2AS-GW-110-1. The pressure override switch for O2AS-GW-110-1 is located adjacent to the common power switch for the oxygen analyzers and was found in the reset position on December 26, 1996. A review of the charts for the oxygen analyzers indicate that they went offscale low at about 0120 hours on November 26, 1996, or about 2 hours later. There is no indication in the Control Room of oxygen analyzer on/off condition.

Plant records show that during the period when the oxygen analyzers were inoperable (November 25, 1996 to December 26, 1996), there were short duration Unit 1 waste gas compressor operations on two occasions, to verify proper operation after repair. No degassing operations took place at Unit 1 during this period. Waste Gas Compressor 1GW-C-1B was operated on November 27, 1996 between 1250 and 1352 hours and on November 30, 1996 between 0829 hours and 0844 hours. Plant records and Operator interviews indicate that on November 27, 1996 there was no gas flow to the Waste Gas Surge Tank 1GW-TK-2 {E1IS:WE/TK} due to compressor malfunction. There was gas flow to the Waste Gas Surge Tank (surge tank filling operation) on November 30, 1996 after compressor repairs, when the compressor was successfully operated for post maintenance testing for about 15 minutes. No oxygen sample was taken subsequent to compressor operation on either occasion, since Operations was unaware at the time that the oxygen analyzers were de-energized.

Unit 1 Technical Specification (TS) LCO 3.3.3.11 requires the Explosive Gas Monitoring Instrumentation channels shown in Table 3.3-13 (Waste Gas Decay Tank Oxygen Analyzers - O2AS-GW-110-1 and 2) to be operable with their alarm/trip setpoints set to ensure that the limits of TS 3.11.2.6 are not exceeded. TS LCO 3.11.2.6 requires the concentration of oxygen in the Gaseous Waste Disposal System to be less than or equal to 2% by volume whenever the hydrogen concentration exceeds 4% by volume.

TS 3.3.3.11 action statement b requires that, with less than the minimum number of channels operable, follow the applicable action shown in Table 3.3-13. This is action 31 which requires that, with two channels inoperable, operation may continue, provided grab samples are taken and analyzed at least once per 4 hours during degassing operations and at least once per 24 hours during other operations.

TS Bases 3/4.3.3.11 states that this instrumentation includes provisions for monitoring and controlling the concentrations of potentially explosive gas mixtures in the Gaseous Waste Disposal System. TS Bases 3/4.11.2.6 states that the TS is provided to ensure that the concentration of potentially explosive gas mixtures contained in the Gaseous Waste Disposal System is maintained below the flammability limits of hydrogen and oxygen.

Based upon TS 3.3.3.11 action statement b, an oxygen grab sample should have been taken subsequent to compressor operation on November 27, 1996 and November 30, 1996, since, with two oxygen analyzers inoperable, a grab sample is required once per 24 hours during other operations (other than degassing operations).

TS LCO 3.3.3.11 action statement b requires the inoperable instrumentation to be restored to operable within 30 days, and if unsuccessful, prepare and submit a Special Report to the Commission pursuant to TS 6.9.2 to explain why this inoperability was not corrected in a timely manner. Pursuant to the guidance of NUREG 1022, it is intended that the Special Report requirement be satisfied by this LER.

CORRECTIVE ACTIONS

Samples were obtained from Unit 1 Waste Gas Surge Tank and analyzed on December 26, 1996 at 1450 and 1930 hours. Both samples were less than 1% by volume oxygen. The oxygen analyzers were restored to the proper control switch alignment. Follow-up corrective actions include: 1) the operator involved in this event was counseled on the need to maintain attention to detail and management expectations concerning self-checking, 2) Primary Auxiliary Building (PAB) Operator logs and the L5 surveillance verification logs for Unit 1 were revised January 24, 1997 to require routine verification of oxygen analyzer operability, 3) Unit 2 PAB and L5 logs were reviewed to assess the applicability of the concerns identified from this event, and comparable log revisions for Unit 2 were implemented January 24, 1997, and 4) this LER will be required reading for Licensed Operators and Shift Technical Advisors to be completed by February 28, 1997.

LICENSEE EVENT REPORT (LER)

TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Beaver Valley Power Station Unit 1	05000334	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 4
		96	013	00	

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

REPORTABILITY

Plant records show that during the period from November 25, 1996 to December 26, 1996, Unit 1 waste gas compressor operations occurred on two occasions - November 27, 1996 and November 30, 1996. Contrary to Technical Specification requirements, grab samples were not taken and analyzed. This is an operation or condition prohibited by the plant's Technical Specifications, and is reportable pursuant to the requirements of 10CFR50.73(a)(2)(i). Since the Gaseous Waste Disposal System Explosive Gas Monitoring Instrumentation (both oxygen analyzers) was inoperable for >30 days, this event is also reportable pursuant to the requirements of TS LCO 3.3.3.11, action statement b, which requires a Special Report to the NRC pursuant to TS 6.9.2. This requirement is satisfied by submittal of this report.

SAFETY IMPLICATIONS

A review of all Unit 1 and Unit 2 waste gas operations between November 25, 1996 and December 26, 1996 was performed. Records indicate that the Waste Gas Decay Tanks, which are common to both Units, were filled from the Unit 2 Waste Gas Surge Tank on nine days during the period. However, Unit 2 has its own oxygen analyzers which were in service as required during these filling operations. No Unit 1 Waste Decay Tank filling operations took place during the period the Unit 1 oxygen analyzers were out of service. Short duration Unit 1 waste gas compressor operations on November 27, 1996 and November 30, 1996, (62 minutes and 15 minutes, respectively) were performed for maintenance to verify proper waste gas compressor operation after repair. Samples obtained from the Unit 1 Waste Gas Surge Tank and analyzed on December 26, 1996 at 1450 and 1930 hours were less than 1% by volume oxygen. Based upon this information, there were no implications to the health and safety of the public as a result of this event.

SIMILAR EVENTS

A review of Licensee Event Reports for the past two years identified no similar events.