



# Pennsylvania Power & Light Company

Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Bruce D. Kenyon  
Vice President-Nuclear Operations  
215/770-7502

MAR 28 1983

Mr. Thomas T. Martin, Director  
Division of Engineering and Technical Programs  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION  
NRC INSPECTION OF JANUARY 17-21, 1983  
REPORT NO. 50-387/83-02  
ER 100450 FILE 841-04  
PLA-1589

Docket No. 50-387

Dear Mr. Martin:

This letter provides PP&L's response to your letter of February 24, 1983, which forwarded NRC Region I Inspection Report No. 50-387/83-02 and "Appendix A, Notice of Violation."

Your notice advised that PP&L was to submit within thirty (30) days of the date of the letter, a written reply addressing (1) the corrective steps which have been taken and the results achieved; (2) the corrective steps which will be taken to avoid further violations; and (3) the date when full compliance will be achieved.

Attachment 1 provides PP&L's response to the three violations cited in your notice. We trust the Commission will find our response acceptable.

Very truly yours,

B. D. Kenyon  
Vice President-Nuclear Operations

Attachment  
Affidavit

cc: Mr. G. G. Rhoads  
U.S. Nuclear Regulatory Commission  
P.O. Box 52  
Shickshinny, PA 18655

Dr. J. C. Jang  
U.S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, PA 19406

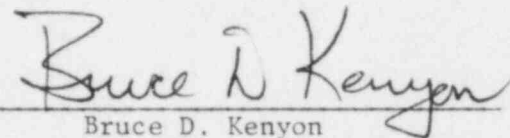
AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA)

: SS

COUNTY OF LEHIGH )

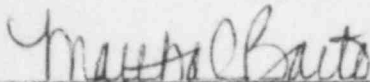
I, Bruce D. Kenyon, being duly sworn according to law, state that I am Vice President-Nuclear Operations, of Pennsylvania Power & Light Company and that the facts set forth on the attached response by Applicants to the NOTICE OF VIOLATION dated February 24, 1983, are true and correct to the best of my knowledge, information and belief.



Bruce D. Kenyon

Vice President-Nuclear Operations

Sworn to and subscribed  
before this 28<sup>th</sup> day  
of March, 1983.



Notary Public

MARTHA C. BARTO, Notary Public

Allentown, Lehigh County, Pa.

My Commission Expires Jan. 13, 1986

RESPONSE TO NOTICE OF VIOLATIONA. Violation:

Table 4.11.2.1.2-1 of the Technical Specifications, "Radioactive Gaseous Waste Sampling and Analysis Program", requires the determination of the lower limit of detection (LLD) prior to use of the measurement system. When iodine and particulate samples collected for 24 hours are analyzed, the corresponding LLDs may be increased by a factor of 10.

Contrary to the above, Procedure SC-33-101, "Unit 1 Turbine Building Vent Weekly Iodine and Particulate Activity", was revised on September 4, 1982 and the requirement to calculate LLD was deleted from this revision. Subsequent to this date the LLDs for iodine and particulate samples collected for 24 hours were not determined prior to use of the measurement system as required.

Response:

## (1) Corrective steps which have been taken and results achieved:

The Notice describes the deletion from SC-33-101 of the Lower Limit of Detection (LLD) calculation for each isotopic measurement. It should be noted that such calculations provide a posteriori values for the particular measurement, definitively establishing that the LLD limits were met. It would also be acceptable to perform a priori calculations utilizing parameters appropriate to planned measurements for demonstration of compliance with LLD requirements.

It has been verified that all LLD requirements for iodine and particulate isotopes measured after the procedure was revised meet the Technical Specifications LLD Limits. This was accomplished utilizing data recorded for the subject analyses. Unfortunately, as stated in the Notice, no LLD's were calculated for these measurements at the time of performance and no a priori calculations were documented which bounded the planned analyses. The LLD calculation and verification steps have been restored to SC-33-101. It is recognized that utilization of a priori calculations is an option which may be exercised in the future.

## (2) Corrective steps which have been taken to avoid further violations:

To prevent recurrence and to improve management control over procedure changes, a memo was routed to all members of the Chemistry Group directing that under normal circumstances changes to procedures should be reviewed by the Chemistry Supervisor or a Senior Chemist prior to submittal for Section Head approval.

## (3) The date when full compliance will be achieved:

As a result of completion of the corrective actions stated above PP&L is now in full compliance.

B. Violation:

Section 6.8.1.i of the Technical Specifications requires that the guidance of Regulatory Guide 4.15, February, 1979 be followed. Section C.6.2 of Regulatory Guide 4.15 requires that the results of performance checks be recorded in a log and plotted on a control chart. Procedure AD-QA-445, written pursuant to the above requirements, requires that the background counting rate and check source measurements be recorded.

Contrary to the above, no check source measurements have been recorded since April, 1982, for the gamma spectrometry system as required.

Response:

PP&L does not concur that the cited condition is a violation. The inspector based his determination that "no check source measurements have been recorded since April 1982, for the gamma spectrometry system" on his interpretation that a "log" as specified in Regulatory Guide 4.15, Section C.6.2 Rev. 1 has not been kept.

The procedure used at Susquehanna SES for performing the scheduled checks for the gamma spectroscopy systems is as follows:

- 1) EU-152 standard is counted
- 2) A computer printout of the results (FWHM, peak energies and peak intensities) is obtained
- 3) The appropriate parameters are plotted on a control chart
- 4) The computer printout is retained in the SSES Chemistry Lab and periodically sent to the SSES Document Control Center for storage as a permanent record

As can be seen in Attachment 1A, the computer printout of the checks is clearly identified as such and the data contained therein definitively labeled. Attachment 1B, a sample transmittal of the printouts, demonstrates that the printouts and the file into which they are to be entered are properly described.

Since the results of the performance checks are, in fact, recorded on the computer printout, it is PP&L's position that the filed printouts meet the requirements of Regulatory Guide 4.15 and AD-QA-445.

C. Violation:

Section 6.8.1 of the Technical Specifications requires that written procedures shall be established, implemented, and maintained that meet the requirements of Appendix "A" of Regulatory Guide 1.33 Revision 2, February 1978. Appendix A of Regulatory Guide 1.33-1978 requires procedures for effluent sample analyses. Section 6.8.2 of the Technical Specifications requires that the procedures of Section 6.8.1 shall be reviewed by either the Plant Operations Review Committee (Section 6.5.1.6) or knowledgeable individuals (Section 6.5.3) and approved by the Superintendent of Plant-Susquehanna prior to implementation.

Contrary to the above, as of January 21, 1983, the procedures used by a contractor laboratory for performing gross alpha, tritium, iron, and strontium analyses of effluent samples were not reviewed and approved as required.

Response:

(1) Corrective steps which have been taken and results achieved:

PP&L's interpretation of the requirements of Sections 6.8.1 and 6.8.2 of Technical Specifications relating to the analyses in question, is that plant procedures (approved by PORC and the Superintendent of Plant) be established, implemented and maintained to document performance and results. These procedures may permit the actual analyses to be performed by a vendor provided their technical and programmatic capabilities justify their inclusion on the Approved Supplier Quality Listing (ASQL). A vendor who has been included on the ASQL has been listed based on an evaluation that concludes that the vendor currently has in effect a QA Program capable of complying with PP&L's QA program requirements. This means that the actual analysis procedures utilized by the vendor are controlled by their quality program and thus do not require PORC review or Superintendent of Plant approval.

For the situation cited in the Notice, it has been determined that the laboratory that was being utilized was not included on the ASQL. A new vendor has been selected and is presently undergoing qualification for inclusion on the ASQL. This will be accomplished prior to their utilization as a vendor for these analyses.

It has also been determined that all but one of the plant procedures which accomplish the subject analyses contained appropriate references for vendor performance. That procedure, SC-69-003, has been revised to incorporate the reference.

(2) Corrective steps which will be taken to avoid further violations:

For future analyses, either approved vendors on the ASQL will be utilized, or vendors will be utilized in accordance with PP&L's Operational Quality Assurance Program.

(3) The date when full compliance will be achieved:

As a result of the corrective actions stated above, PP&L is now in full compliance.

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\* GAMMA SPECTRUM ANALYSIS \*  
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CHUBERRA SPECTRAN-F V2.01 SOFTWARE

SUSQ. S.E.S. CHEMISTRY LABORATORY

14-MAR-83 02:25:18

## ANALYSIS PARAMETERS

MCA UNIT NUMBER: 1 / DETECTOR NUMBER: 1 / GEOMETRY NUMBER: 22  
ADC UNIT NUMBER: 1.0  
SPECTRUM SIZE: 4096 CHANNELS  
ORDER OF SMOOTHING FUNCTION: 0  
NUMBER OF BACKGROUND CHANNELS: 8 ON EACH SIDE OF PEAK  
PEAK CONFIDENCE FACTOR: 95.0%  
IDENTIFICATION ENERGY WINDOW: +- 1.00 KEV  
ERROR QUOTATION: 1.00 SIGMA UNCERTAINTY

MEASURED ENERGY DIFFERENCES LISTED  
MULTIPLER ANALYSIS PERFORMED

SPECTRAL DATA READ DIRECTLY FROM MULTICHANNEL ANALYZER AN0:  
SAMPLE DESCRIPTION: 82-097  
ANALYZED BY: MB  
SAMPLE SIZE: 6.0000E+01 ML / CONVERSION FACTOR: 1.0000E+00  
STANDARD SIZE: 6.0000E+01 ML  
ANALYSIS LIBRARY FILE: ANL007

COLLECT STARTED ON 14-MAR-83 AT 02:14:46

COLLECT LIVE TIME: 600. SECONDS  
REAL TIME: 613. SECONDS  
DEAD TIME: 2.12 %

DECAYED TO 310. DAYS, 14.2464 HOURS BEFORE THE START OF COLLECT

ENERGY CALIBRATION PERFORMED 13-MAR-83  
EFFICIENCY CALIBRATION PERFORMED 12-AUG-82



## P E A K   A N A L Y S I S

PK	CENTROID CHANNEL	ENERGY KEV	FWHM KEV	BACKGND COUNTS	NET AREA COUNTS	ERROR %	NUCLIDES
1C	79.48	39.79	1.3	5523.	3390.	4.9	
2C	90.39	45.24	1.3	4339.	2068.	6.3	
3C	93.07	46.58	1.3	4049.	382.	29.2	
4	194.59	97.32	1.2	6004.	484.	20.5	SE-75, GD-153
5	243.42	121.72	1.3	4964.	47397.	0.5	SE-75, EU-152, CO-57
6	489.45	244.67	1.4	2140.	8688.	1.3	EU-152
7	592.17	296.00	1.0	1603.	471.	11.8	PB-214, XE-139
8	688.61	344.19	1.5	1305.	23196.	0.7	BA-141, EU-152
9C	732.43	366.09	1.4	921.	109.	13.7	MO-99
10C	735.80	367.78	1.4	913.	693.	7.5	
11	822.35	411.03	1.5	1109.	1604.	3.7	AU-198
12	888.05	443.85	1.6	917.	2127.	2.8	
13	1557.98	778.58	1.9	785.	5462.	1.5	MO-99, EU-152
14C	1734.80	866.92	2.0	863.	1785.	4.5	
15	1928.26	963.56	2.1	529.	5177.	1.5	EU-152
16	2010.64	1004.72	1.9	354.	390.	8.2	
17C	2171.81	1085.23	2.2	452.	3476.	2.1	
18C	2179.87	1089.26	2.2	456.	501.	6.1	
19	2224.53	1111.57	2.2	404.	4459.	1.6	TE-129, EU-152
20	2426.74	1212.57	2.0	248.	441.	6.9	
21	2598.97	1298.60	2.1	109.	407.	6.1	I-133
22	2817.34	1407.67	2.5	91.	5449.	1.4	EU-152

ERROR QUOTATION AT 1.00 SIGMA  
PEAK CONFIDENCE LEVEL AT 95.0%

C - MULTIPLY ANALYSIS CONVERGED NORMALLY

SAMPLE: 82-097

DATA COLLECTED ON 14-MAR-83 AT 02:14:46

DECAYED TO 310. DAYS, 14.2464 HOURS BEFORE THE START OF COLLECT.

## RADIO NUCLIDE ANALYSIS REPORT

NUCLIDE	ACTIVITY CONCENTRATION IN UC/ML				ENERGY COMPARISON (KEV)	
	MEASURED	ERROR	DECAY CORRECTED	ERROR	EXPECT	DIFF
EU-152	1.22E-02	+1.03E-04	1.27E-02	+1.07E-04	121.78	-0.06
					244.69	-0.02
					344.27	-0.08
					778.88	-0.30
					964.01	-0.45
					1112.02	-0.45
				1407.95	-0.28	
TOTAL	1.22E-02	+1.03E-04	1.27E-02	+1.07E-04		

STANDARD DEVIATION = 0.18

ERROR QUOTATION AT 1.00 SIGMA

## PEAKS NOT USED IN ANALYSIS

TROID CHANNEL	ENERGY KEV	NET AREA COUNTS	ERROR %	GAMMAS/SEC
79.48	39.79	3390.	4.9	1.85E+03
90.39	45.24	2068.	6.3	8.88E+02
93.07	46.58	382.	29.2	1.56E+02
194.59	97.32	484.	20.5	8.51E+01
592.17	296.00	471.	11.8	1.19E+02
732.43	366.09	109.	13.7	3.35E+01
735.80	367.78	693.	7.5	2.14E+02
822.35	411.03	1604.	3.7	5.49E+02
888.05	443.85	2127.	2.8	7.80E+02
1734.80	866.92	1785.	4.5	1.17E+03
2010.64	1004.72	390.	8.2	2.87E+02
2171.81	1085.23	3476.	2.1	2.72E+03
2179.87	1089.26	501.	6.1	3.94E+02
2426.74	1212.57	441.	6.9	3.77E+02
2598.92	1298.60	407.	6.1	3.68E+02



FORM NO. 3179 (10/81)

SUSQUEHANNA SES RECORDS MANAGEMENT SYSTEM  
TRANSMITTAL: INTERNAL SUBMITTAL OF DOCUMENTS TO SRMS

Supv.-Nuclear Records System

☐ SRMS DCC-GO☒ SRMS DCC-SSS

Transmittal No.:

To be filled in by ORIGINATOR:

Chemistry  
 Dept. of Origin

10/24/87  
 Date

Document Status (Attach access limitations):

☐ Confidential - Release Date:☐ Proprietary ☐ Security QA

UNIQUE ID	TITLE/DESCRIPTION	REV.	CROSS REFERENCE	FILE NO.	BEGINNING & ENDING NUMBERS, SERIES, DATES, ETC.
	DAILY Ge(Li) source check		#2	139.05	8 OCT 82
			#2		8 OCT 82
	computer sheets		#1		8 OCT 82
			#2		8 OCT 82
			#1		8 OCT 82
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			#1		10 OCT 82
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			#1		10 OCT 82
			#2		11 OCT 82
			#2		12 OCT 82
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			#1		13 OCT 82
			#2		13 OCT 82
			#1		14 OCT 82
			#2		15 OCT 82
			#2		15 OCT 82
			#1		16 OCT 82
			#2		16 OCT 82

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 (If YES, attach distribution list.)

The contents transmitted have been prepared and reviewed in accordance with the requirements of SRMS Procedure P 1.0, Document Submittals.

Denise D. M. M.  
 Originator's Signature

390  
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