

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-10/78-19; 50-237/78-17; 50-249/78-19

Docket No. 50-10; 50-237; 50-249 License No. DPR-2; DPR-19, DPR-25

Licensee: Commonwealth Edison Company
P. O. Box 767
Chicago, IL 60690

Facility name: Dresden Nuclear Generating Station Units 1, 2, and 3

Inspection at: Dresden Site, Morris, IL

Inspection conducted: June 5, 6, 7 and 9, 1978

Inspectors: *T. H. Essig*
for M. J. Oestmann

W. B. Grant
W. B. Grant

6/29/78

6/28/78

Approved by: *T. H. Essig*
T. H. Essig, Chief
Environmental and Special
Projects Section

6/29/78

Inspection Summary

Inspection on June 5, 6, 7 and 9, 1977 (Report No. 50-10/78-19; 50-237/78-17; 50-249/78-19)

Areas Inspected: Routine, unannounced inspection of the Environmental Protection Program including: management controls; internal audits; quality control of analytical measurements; implementation of the environmental monitoring program; results of the meteorological program and the Confirmatory Measurements Program including: discussion of the results of comparative analyses of previous radiological effluent samples; collection of samples for subsequent comparative analyses and review of licensee's quality control of analytical measurements. The inspection involved 50 inspector-hours onsite by 2 NRC inspectors.

Results: No apparent items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

- *B. Stephenson, Station Superintendent, Dresden
- *G. Bergan, Plant Chemist
- *G. Reardanz, Quality Assurance Engineer Dresden
- *J. Parry, Lead Health Physicist, Dresden
- *J. Wujciga, Lead Unit 2 Engineer, Dresden
- M. Waldron, Staff Biologist, Environmental Affairs (EA), CECo
- P. Howe, Water Quality Supervisor (EA), CECo
- J. Golden, Staff Radioecologist and Administrator for Radiological Environmental Monitoring Programs, Production Systems Analysis Department (PSA), CECo
- P. Hayes, Radiochemist, PSA, CECo
- B. Dione, Radiation Protection Engineer, Dresden
- D. Adam, Radiation-Chemistry Supervisor, Dresden
- T. Schnieder, Plant Chemist, Dresden

*Denotes those present at the exit interview.

2. Licensee Internal Audits

The inspectors reviewed licensee audits of contractors who perform the radiological environmental and meteorological monitoring programs. The inspectors noted the licensee performed follow-up audits on both contractors and determined that identified discrepancies had been corrected.

The licensee's Quality Assurance Department has scheduled an audit of the environmental monitoring program for the week of June 12, 1978. The results of this audit will be reviewed during the next inspection.

No apparent items of noncompliance or deviations were identified.

3. Management Controls

The inspectors examined management controls, including organization structure, assignment of responsibilities and authorities, and procedural controls of the environmental and radiological monitoring programs. It was noted that the licensee has maintained the same administrative functions relating to these monitoring programs as discussed in the previous environmental inspections.

No apparent items of noncompliance or deviations were identified.

4. Quality Control of Analytical Procedures

The inspectors reviewed the quality assurance manuals of the contractors responsible for the environmental monitoring programs. Included was a review of the Field Sample and Analytical Procedures by Eberline Instrument Company. The licensee has established a schedule to assure radiological environmental samples are collected in accordance with the frequency established in Table 4.8.1 of the Technical Specifications. The inspectors also examined the schedule for calibration and maintenance of monitoring equipment listed in the Eberline Field Sampling and Analytical Procedures. It was noted that sampling, maintenance and calibration had been completed as required by existing procedures.

The inspectors also reviewed the Quality Assurance Manual for the nonradiological environmental monitoring program. This document will be examined in detail during a subsequent inspection, when the program has been incorporated into the Appendix B Technical Specifications. The Appendix B Technical Specifications are scheduled to be issued in the near future.

No apparent items of noncompliance or deviations were identified.

5. Implementation of the Radiological Environmental Monitoring Program

The radiological environmental monitoring program underwent a significant change with the issuance of a Technical Specification Amendment effective October 18, 1977. The inspectors examined the monitoring results for calendar year 1977 prior to October for compliance with the old requirements and for November and December for compliance with the requirements of the current Technical Specifications. No monitoring omissions or unusual trends were noted in the results. Special sample collections and analyses were performed following increased effluent radioactivity release rates associated with operational occurrences. Actions taken were found to be adequate and the notification to the NRC timely and as described in the semiannual and annual reports.

The inspectors toured several monitoring stations and found all but one of them to be operable. Station D-15 "Clay Products" air sampling pump was found not functioning and was probably burned out. The licensee notified their contractor and were assured that the equipment would be operable within the week. Monitoring equipment is checked weekly to assure equipment is operable.

No apparent items of noncompliance or deviations were identified.

6. Implementation of Nonradiological Environmental Monitoring Program

The inspectors examined selected results of the licensee's nonradiological environmental monitoring program for 1976.

The inspectors visited various sections of the site to observe the intake and discharge structures, spray canals, lift station and cooling lakes, and to inspect the general state of the cooling system for Unit 1 and Units 2/3.

No apparent items of noncompliance or deviations were identified.

7. Meteorological Monitoring Program

The inspectors noted that the meteorological monitoring results during 1977 showed an overall data recovery rate of 95.7%. The inspection revealed that the contractor has maintained and calibrated the meteorological recording equipment on a bi-monthly basis. The inspectors toured the meteorological tower and observed radiological monitoring equipment. It was noted that the meteorological equipment provides readouts at the tower, in the control room and at the GSEP Command Center at Corporate Headquarters. The inspectors were informed that the control room readout information differs from that provided at the tower and at the Command Center. During discussions with the licensee on this matter, an oral commitment was received to calibrate the readouts so they all provide the same information.

The inspectors reviewed 1977 annual meteorological report from the contractor who performs the dose calculations for the licensee's annual report on radiological effluents and the radiological environmental monitoring program.

No apparent items of noncompliance or deviations were identified.

8. Quality Control of Analytical Measurements

The licensee's program for quality control laboratory analyses is governed by plant procedures. These procedures govern sampling techniques, instrument calibration, and analytical techniques. The inspectors reviewed selected procedures and no problem areas were noted.

9. Comparison of Analytical Measurements

The inspectors reviewed the analytical results of the gaseous and liquid wastes, particulate and charcoal adsorber samples collected from the Dresden Nuclear Power Station in December 1977. The results of the licensee's and the NRC Reference Laboratory's analyses were compared using the "Criteria for Comparing Analytical Measurements" (Attachment 1).

A summary of these results by sample type and isotope is presented in Table 1. The inspectors discussed the results with licensee representatives and noted that all analyses were in agreement or possible agreement.

10. Collection of Samples for Future Comparative Analyses

The inspectors collected a liquid and gaseous waste, particulate filter, charcoal adsorber samples from the licensee for subsequent comparative analyses. The results of these analyses will be compared during a future inspection.

11. Exit Interview

The inspectors met with the licensee representatives denoted in Paragraph 1 at the conclusion of the inspection on June 9, 1978. The inspectors summarized the purpose and scope of the inspection and the findings. The licensee representatives made the following remarks in response to certain of the items discussed by the inspectors:

- a. Agreed to calibrate the control room readout from the meteorological tower so that it corresponds with the readouts at the tower and in the CECO Command Center.
- b. Acknowledged a comment by the inspectors concerning a milk cow census to be performed annually under the current Technical Specifications.

Attachments:

1. Table 1, Dresden Confirmatory Measurements Program
2. Attachment 1, Criteria for Comparing Analytical Measurements

TABLE I
 U S NUCLEAR REGULATORY COMMISSION
 OFFICE OF INSPECTION AND ENFORCEMENT
 CONFIRMATORY MEASUREMENTS PROGRAM
 FACILITY: DRESDEN
 FOR THE 4 QUARTER OF 1977

FILE	ISOTOPE	-----NRC-----		---LICENSEE---		---NRC:LICENSEE---		
		RESULT	ERROR	RESULT	ERROR	RATIO	RES	T
FILTER	CO 5	1.2E-04	1.6E-05	1.3E-04	1.9E-05	1.1E+00	7.5E+00	A
	CO 6	1.7E-04	2.6E-05	3.0E-04	1.0E-05	1.3E+00	6.5E+00	A
	CS 134	7.2E-04	2.9E-05	8.2E-04	1.0E-05	1.1E+00	2.5E+01	A
	CS 137	3.2E-03	9.2E-05	3.3E-03	1.0E-04	1.0E+00	3.3E+01	A
	H 140	2.3E-02	3.6E-04	2.4E-02	1.0E-03	1.0E+00	2.7E+01	A
	I 131	8.0E-04	2.0E-04	1.0E-03	1.0E-04	1.2E+00	4.0E+00	A
FILTER	I 131	1.1E-01	3.2E-03	7.6E-02	2.3E-02	6.9E-01	3.4E+01	P
GAS	XF 133	3.7E-02	1.1E-03	3.1E-02	1.0E-03	6.4E-01	3.4E+01	A
	XF 133M	3.5E-03	4.0E-04	2.4E-03	1.0E-04	6.9E-01	8.7E+00	A
WATER	RFTA	8.4E-07	4.0E-08	1.2E-06	1.0E-07	1.4E+00	2.1E+01	P
	H 3	2.4E-03	2.0E-05	2.4E-03	2.0E-04	1.0E+00	1.2E+02	A

TEST RESULTS:
 AGREEMENT
 DISAGREEMENT
 POSSIBLE AGREEMENT
 NO COMPARISON

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ATTACHMENT 1

CRITERIA FOR COMPARING ANALYTICAL MEASUREMENTS

This attachment provides criteria for comparing results of capability tests and verification measurements. The criteria are based on an empirical relationship which combines prior experience and the accuracy needs of this program.

In these criteria, the judgment limits are variable in relation to the comparison of the NRC Reference Laboratory's value to its associated one sigma uncertainty. As that ratio, referred to in this program as "Resolution", increases, the acceptability of a licensee's measurement should be more selective. Conversely, poorer agreement should be considered acceptable as the resolution decreases. The values in the ratio criteria may be rounded to fewer significant figures to maintain statistical consistency with the number of significant figures reported by the NRC Reference Laboratory, unless such rounding will result in a narrowed category of acceptance. The acceptance category reported will be the narrowest into which the ratio fits for the resolution being used.

<u>RESOLUTION</u>	<u>RATIO = LICENSEE VALUE/NRC REFERENCE VALUE</u>		
	<u>Agreement</u>	<u>Possible Agreement "A"</u>	<u>Possible Agreeable "B"</u>
<3	No Comparison	No Comparison	No Comparison
>3 and <4	0.4 - 2.5	0.3 - 3.0	No Comparison
>4 and <8	0.5 - 2.0	0.4 - 2.5	0.3 - 3.0
>8 and <16	0.6 - 1.67	0.5 - 2.0	0.4 - 2.5
>16 and <51	0.75 - 1.33	0.6 - 1.67	0.5 - 2.0
>51 and <200	0.80 - 1.25	0.75 - 1.33	0.6 - 1.67
>200	0.85 - 1.18	0.80 - 1.25	0.75 - 1.33

"A" criteria are applied to the following analyses:

Gamma spectrometry, where principal gamma energy used for identification is greater than 250 keV.

Tritium analyses of liquid samples.

"B" criteria are applied to the following analyses:

Gamma spectrometry, where principal gamma energy used for identification is less than 250 keV.

Sr-89 and Sr-90 determinations.

Gross beta, where samples are counted on the same date using the same reference nuclide.

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