

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

Region I

NOTICE
1 NOV 1978

Report No. 50-334/78-28

Docket No. 50-334

License No. DPR-66 Priority -- Category C

Licensee: Duquesne Light Company

435 Sixth Avenue

Pittsburgh, Pennsylvania 15219

Facility Name: Beaver Valley Power Station, Unit 1

Inspection at: Shippingport, Pennsylvania

Inspection conducted: October 13, 1978

Inspectors: J. J. Kottan
J. J. Kottan, Radiation Specialist

10/30/78
date signed

date signed

date signed

Approved by: J. P. Stohr
J. P. Stohr, Chief, Environmental and Special
Projects Section, FF&MS Branch

10/30/78
date signed

Inspection Summary:

Inspection on October 13, 1978 (Report No. 50-334/78-28)

Areas Inspected: This report contains the results of effluent samples split between the licensee and NRC:I during a previous inspection on June 5-7, 1978. The comparison of these results involved no onsite time.

Results: Within the area inspected, no items of noncompliance were observed.

DETAILS

1. Persons Contacted

V. J. Linnenbom, Radiochemist

2. Confirmatory Measurements

In a previous inspection conducted on June 5-7, 1978, Inspection Report 50-334/78-15, liquid and gaseous effluent samples were split with the licensee and NRC:I. Analyses were performed by the licensee using his normal methods and procedures, and the NRC:I analyses were performed by the Department of Energy's Radiological and Environmental Services Laboratory (RESL). The comparison of the analytical results indicated that all of the measurements were in agreement or possible agreement under the criteria used for comparing results (see Attachment 1). The results of the comparisons are presented in Table I. No items of noncompliance were identified.

3. Exit Interview

The inspector discussed the results of this inspection in a telephone conversation on October 13, 1978 with the licensee representative denoted in paragraph 1.

TABLE 1

BEAVER VALLEY VERIFICATION - TEST RESULTS

<u>SAMPLE</u>	<u>ISOTOPE</u>	<u>NRC VALUE</u>	<u>LICENSEE VALUE</u>	<u>COMPARISON</u>
RESULTS IN MICROCURIES PER MILLILITER				
Liquid Rad Waste 0930 6/6/78	H-3	(1.51±0.02)E-2	(1.52±0.14)E-2	Agreement
	Co-58	(2.19±0.14)E-6	(2.81±0.17)E-6	Agreement
Gas Decay Tank 1000 6/6/78	Xe-133	(9.7±0.4)E-4	(1.56±0.01)E-3	Possible Agreement
	Kr-85	(4.7±0.7)E-4	(4.72±0.42)E-4	Agreement

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 judgement limits are variable in relation to the comparison of the NRC Reference Laboratory's value to its associated 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 must be considered acceptable as the resolution decreases.

<u>Resolution</u>	<u>Agreement</u>	<u>LICENSEE VALUE</u>	
		RATIO= <u>NRC REFERENCE VALUE</u>	
		<u>Possible Agreement A</u>	<u>Possible Agreement B</u>
<3	0.4 - 2.5	0.3 - 3.0	No Comparison
4 - 7	0.5 - 2.0	0.4 - 2.5	0.3 - 3.0
8 - 15	0.6 - 1.66	0.5 - 2.0	0.4 - 2.5
16 - 50	0.75 - 1.33	0.6 - 1.66	0.5 - 2.0
51 - 200	0.80 - 1.25	0.75 - 1.33	0.6 - 1.66
>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.

89Sr and 90Sr Determinations.

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