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

Region I

Report No. 50-220/79-10

Docket No. 50-220

License No. DPR-63 Priority -- Category C

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Facility Name: Nine Mile Point Nuclear Station

Inspection at: Lycoming, New York

Inspection conducted: March 15, 1979

Inspectors: J. J. Kottan — 4-20-79
J. J. Kottan, Radiation Specialist — date signed

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_____ date signed

Approved by: J. P. Stohr — 6/6/79
J. P. Stohr, Chief, Environmental and Special Projects Section, FF&MS Branch — date signed

Inspection Summary:

Inspection on March 15, 1979 (Report No. 50-220/79-10)
Areas Inspected: This report contains the results of an effluent sample split between the licensee and NRC:I during a previous inspection on September 25-27, 1978. The comparison of these results involved no on-site time.
Results: Within the area inspected, no items of noncompliance were observed.

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

J. Duell, Assistant Chemistry and Radiation Protection Supervisor

2. Confirmatory Measurements

In a previous inspection conducted on September 25-27, 1978 Inspection Report 50-220/78-14, a liquid effluent sample was 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 analyses results indicated that all of the measurements were in agreement, possible agreement or not comparable under the criteria used for comparing results (See Attachment 1). The results of the comparisons are presented in Table 1. No items of noncompliance were identified.

3. Exit Interview

The inspector discussed the results of this inspection in a telephone conversation on March 15, 1979 with the licensee representative denoted in Paragraph 1.

TABLE 1

NINE MILE POINT, UNIT 1 VERIFICATION TEST RESULTS

SAMPLE	ISOTOPE	NRC VALUE	LICENSEE VALUE	COMPARISON
#11	Sr-89	(3.1±0.2) E-6	(3.23±0.32) E-6	Agreement
FDST	Sr-90	(1.52±0.07) E-6	(1.49±0.15) E-6	Agreement
1125 hrs	Gross Beta	(2.7±0.1) E-4	(1.92±0.19) E-4	Possible Agreement
9/26/78	H-3	(8.17±0.02) E-3	(9.32±0.93) E-3	Agreement
	*Gross Alpha	(1±2) E-9	< 6.12 E-8	No Comparison

* The licensee's Technical Specifications require a gross alpha minimum detectable concentration of 1 E-7 uCi/ml.

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.

$$\text{RATIO} = \frac{\text{LICENSEE VALUE}}{\text{NRC REFERENCE VALUE}}$$

Resolution	Agreement	Possible Agreement A	Possible Agreement B
<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.

Iodine on absorbers

"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.