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NIAGARA MOHAWK POWER CORPORATION

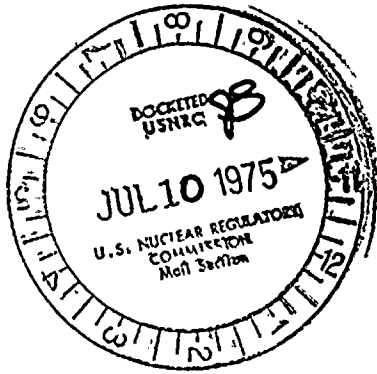
NIAGARA  MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N. Y. 13202

Regulatory

File #:

July 7, 1975



Mr. G. Lear, Chief
Operating Reactors Branch #3
Division of Reactor Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

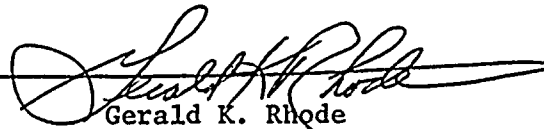
Re: Nine Mile Point Unit 1
Docket No. 50-220

Dear Mr. Lear:

The attached noble gas and iodine activity data for Nine Mile Point Unit 1 is provided in response to your letter of June 10, 1975. It is representative of normal operation for the plant.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION



Gerald K. Rhode
Vice President - Engineering

Attachment

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Nine Mile Point Unit 1

NOBLE GAS AND IODINE ACTIVITY DATA

Noble Gas Activity Data [1]

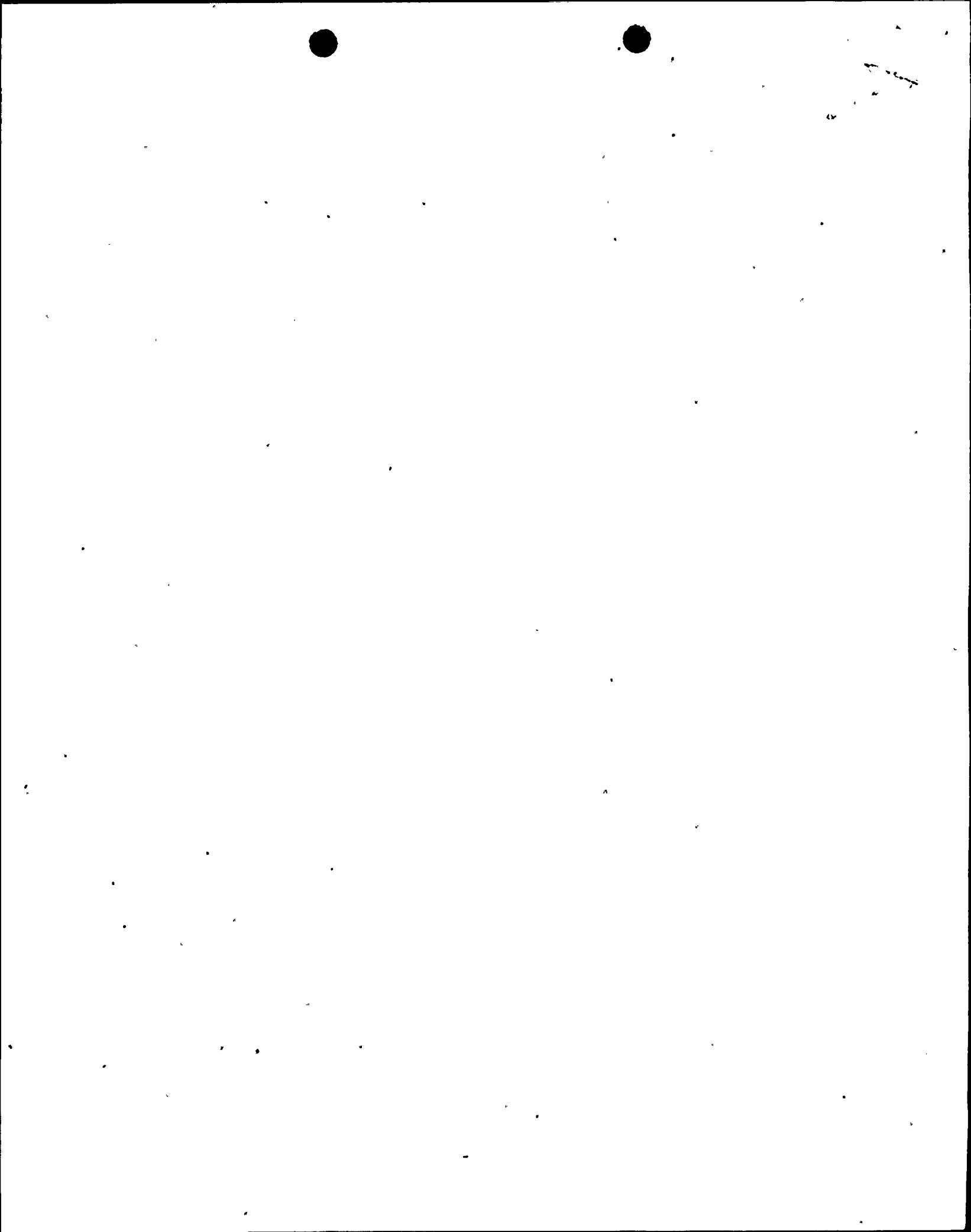
Only the following limited data is available for noble gas activity in the drywell during operation. The best sample taken occurred when the offgas (summation of the six principal fission gases) [2] amounted to 200,000 $\mu\text{Ci}/\text{sec}$ at the Steam Jet Air Ejector (SJAE).

<u>Fission Gas</u>	<u>Drywell Gas Sample</u> <u>$\mu\text{Ci}/\text{cc}$</u>	<u>Offgas Sample at SJAE</u> <u>$\mu\text{Ci}/\text{cc}$</u>
Xe-133	6.0×10^{-5}	2.0×10^{-1}
Xe-135	4.0×10^{-5}	5.5×10^{-1}

Iodine Activity Data [3],[4]

The following is a table of sample results over the last few years showing a comparison between I-131 in the drywell atmosphere, I-131 in the reactor water, and the offgas activity (summation of the six principal fission gases) [2] at the SJAE.

<u>Date</u>	<u>Drywell I-131</u> <u>$\mu\text{Ci}/\text{cc}$</u>	<u>Reactor Water I-131</u> <u>$\mu\text{Ci}/\text{ml}$</u>	<u>Offgas at SJAE</u> <u>$\mu\text{Ci}/\text{sec}$</u>
10-16-73	4.1×10^{-9}	5.2×10^{-3}	$4.9 \times 10^{+4}$
3-27-74	4.9×10^{-9}	2.2×10^{-3}	$6.8 \times 10^{+4}$
11-13-74	5.9×10^{-10}	9.1×10^{-4}	$7.3 \times 10^{+4}$
12-5-74	4.7×10^{-10}	8.9×10^{-4}	$7.9 \times 10^{+4}$
12-13-74	2.4×10^{-9}	9.3×10^{-4}	$3.2 \times 10^{+4}$
12-20-74	1.1×10^{-9}	8.1×10^{-3}	$5.9 \times 10^{+4}$
2-3-75	4.4×10^{-9}	1.2×10^{-3}	$8.2 \times 10^{+4}$
3-20-75	4.1×10^{-9}	4.3×10^{-3}	$1.0 \times 10^{+5}$
4-11-75	1.5×10^{-7} [5]	4.4×10^{-3}	$1.2 \times 10^{+5}$
6-17-75	2.0×10^{-9}	4.3×10^{-3}	$1.7 \times 10^{+5}$



Notes

- [1] At sample time, I-131 concentration in the reactor water was approximately 4.0×10^{-3} $\mu\text{Ci/ml}$.
- [2] Fission gases include: Kr-85m, Kr-88, Kr-89, Xe-133, Xe-135, and Xe-138. There is approximately a five minute delay between the reactor and SJAE.
- [3] Leakage of reactor water into the drywell floor drain system was nominally <0.5 gpm for most of the sample periods.
- [4] Experience has shown that a "Distribution Factor" of 1,000,000 is appropriate to approximate airborne I-131 levels during times of normal reactor water leakage, i.e.:

$$\text{Distribution Factor} = \frac{\text{Reactor Water I-131 } (\mu\text{Ci/ml})}{\text{Drywell I-131 } (\mu\text{Ci/cc})}$$

- [5] Sample taken prior to a drywell purge preceeding reactor shutdown due to high leakage rate of reactor water into drywell floor drain sump.

