

**AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)**

CONTROL NO: 5161

FILE: _____

FROM: Niagara Mohawk Power Corp. Syracuse, N. Y. 13202 R. R. Schneider			DATE OF DOC 6-29-73	DATE REC'D 7-2-73	LTR x	MEMO	RPT	OTHER
TO: Donald J. Skovholt			ORIG 1	CC	OTHER	SENT AEC PDR x SENT LOCAL PDR x		
CLASS	UNCLASS x	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-220			
DESCRIPTION: Ltr re our 4-3-73 ltr...furnishing info re reliability and future evaluation of main steam isolation valve operation...				ENCLOSURES: ACKNOWLEDGED DO NOT REMOVE				
PLANT NAME: Nine Mile Point #1								

FOR ACTION/INFORMATION 7-3-73 LB

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CLARK(L) W/ Copies	STOLZ(L) W/ Copies	DICKER(E) W/ Copies	W/ Copies
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INTERNAL DISTRIBUTION

<u>REG FILE</u> ✓AEC PDR ✓OGC, ROOM P-506A ✓MUNTZING/STAFF ✓CASE GIAMBUSSO BOYD MOORE (L) (BWR) DEYOUNG(L) (PWR) ✓SKOVHOLT (L) P. COLLINS	<u>TECH REVIEW</u> ✓HENDRIE SCHROEDER ✓MACCARY ✓KNIGHT ✓PAWLICKI ✓SHAO ✓STELLO ✓HOUSTON ✓NOVAK ✓ROSS ✓IPPOLITO ✓TEDESCO ✓LONG ✓LAINAS ✓BENAROYA ✓VOLLMER	DENTON GRIMES GAMMILL KASTNER BALLARD SPANGLER <u>ENVIRO</u> MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR HARLESS	<u>LIC ASST</u> BROWN (E) ✓DIGGS (L) GEARIN (L) GOULBOURNE (L) LEE (L) MAIGRET (L) SERVICE (L) SHEPPARD (E) SMITH (L) TEETS (L) WADE (E) WILLIAMS (E) WILSON (L)	<u>A/T IND</u> BRAITMAN SALTZMAN <u>PLANS</u> MCDONALD DUBE <u>INFO</u> C. MILES ✓B. KING (Reg Opr E/W Bldg) (OOE)
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EXTERNAL DISTRIBUTION

✓1 - LOCAL PDR Oswego, N. Y.	(1) (2) (9) - NATIONAL LAB'S	1-PDR-SAN/LA/NY
✓1 - DTIE(ABERNATHY)	1-R. CARROLL-OC,GT-B227	1-GERALD LELLOUCHE
✓1 - NSIC(BUCHANAN)	1-R. CATLIN, E-256-GT	BROOKHAVEN NAT. LAB
1 - ASLB(YORE/SAYRE/ WOODARD/"H" ST.	1-CONSULTANT'S	1-AGMED(WALTER KOESTER RM-C-427-GT
✓16 - CYS ACRS XXXXXX SENT TO LIC ASST R. DIGGS 7-3-73	NEWMARK/BLUME/AGBABIAN	1-RD..MULLER..F-309 GT
	1-GERALD ULRIKSON...ORNL	

SECRET

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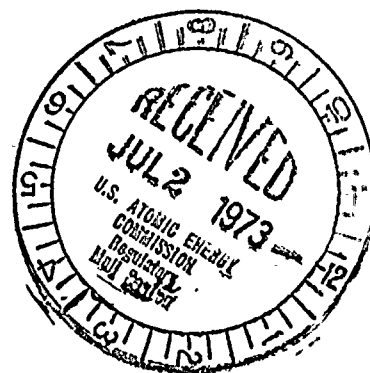
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NIAGARA MOHAWK POWER CORPORATION

NIAGARA  MOHAWK300 ERIE BOULEVARD WEST
SYRACUSE, N. Y. 13202

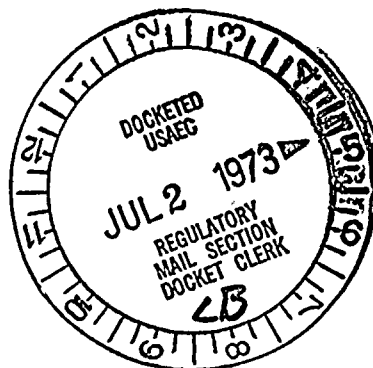
June 29, 1973



Mr. Donald J. Skovholt
Assistant Director for Reactor Operations
Division of Reactor Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

Dear Mr. Skovholt:

Re: Docket No.: 50-220



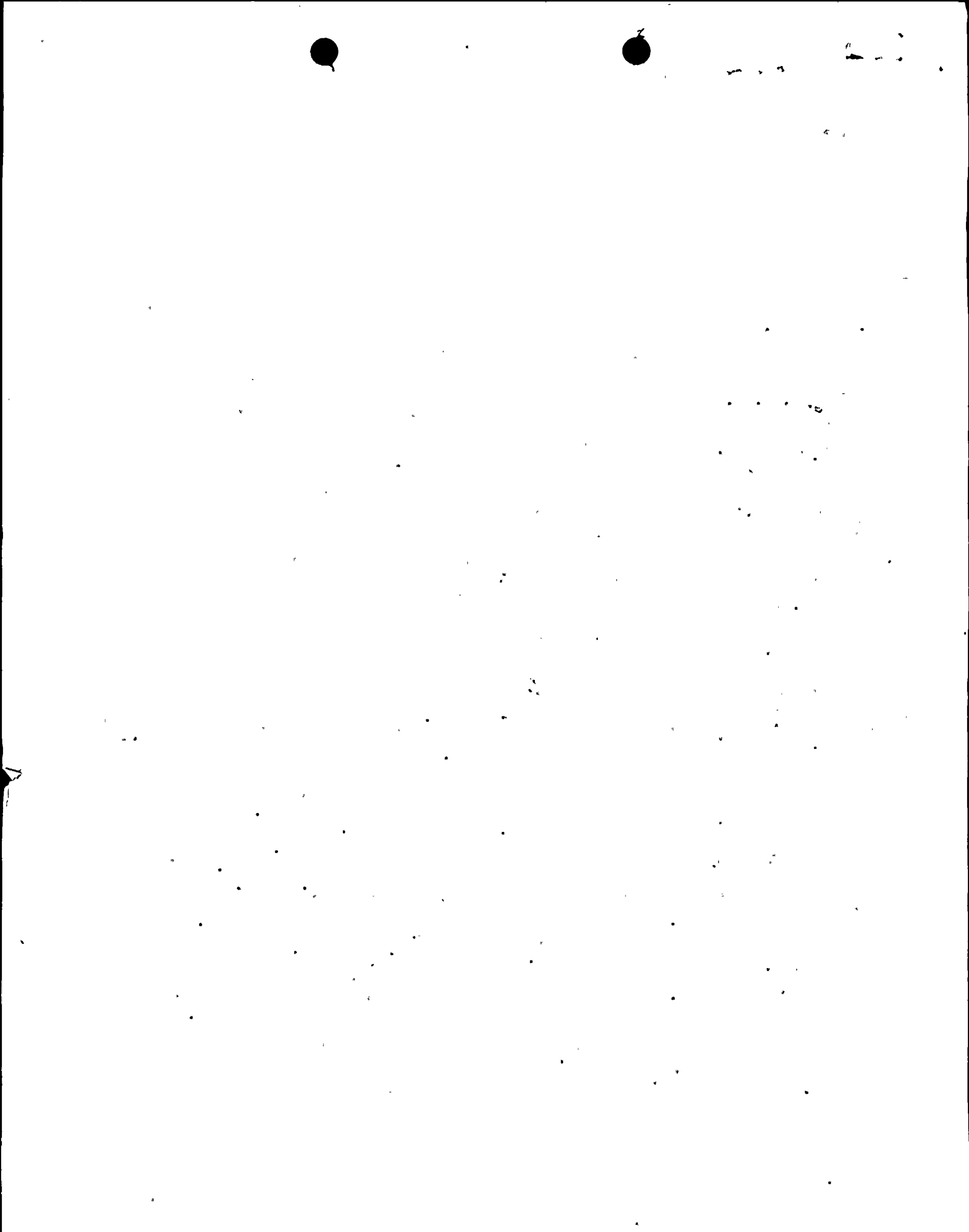
In response to your letter dated April 3, 1973 concerning reliability and future evaluation of main steam isolation valve operation, the following information is submitted.

Instrument Air Supply System Description

Two individual air intakes located on the turbine building roof supply air to redundant air compressors via intake pre-filters. The compressors are teflon ring, oil free type (eg. cylinder and valves are non-lubricated), two cylinder, two stage and designed for heavy duty continuous service.

Under normal operating conditions one compressor is operating, the second unit is on standby but will automatically start on decreasing header pressure. Each compressor is equipped with inter and after coolers. Moisture collected at these coolers is removed from the system by automatic condensate traps and drains. The compressed air then travels through the receiver tank to a refrigerant type dryer. This unit removes moisture to a dew point value of minus (-) 10°F at 14.7 psia. An observation device of color sensitive dessicant is located in the discharge stream to warn of moisture carry over. This is readily observed by operating personnel. The air then passes thru one of two parallel, final filters which by specification removes particles five (5) microns and larger. Each final filter is sized to handle all instrument air requirements but the redundancy allows maintenance and cartridge replacement capability. An audible annunciator and window drop alarms in the main control room on increasing differential pressure across the final filters.

Additional redundancy is provided by an oil lubricated service air compressor in the unlikely event of failure of both instrument air compressors to maintain header pressure. Before admission to instrument air system, purity is maintained by passing



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this air through a moisture separator, an oil absorber and an after filter. The processed air is then introduced to the instrument air refrigerant dryer and final filter before entering header.

The motive force for the two outer MSIV's is provided by the instrument air system. The inside MSIV's are operated by electrically driven geared mechanisms.

During the October 1970 shutdown, upon the recommendation of General Electric Co., the internals of the pneumatics pilot valves were replaced with units designed to withstand higher ambient temperatures. Up to this time, the operating experience had been satisfactory with no sticky or malfunction of pilot valves or closure time problems. A visual inspection of internal assemblies indicated their condition to be "new off the shelf". No stickiness, scratches, or foreign material were apparent.

Hydraulic dashpot refilling and stroke timing was accomplished during the April 1971 shutdown and again during the April 1972 shutdown. At each of these inspections, no malfunction or timing changes were observed.

Following the receipt of your letter and during the April-May 1973 shutdown, all four (4) pneumatic valve internals were visually inspected. No residue, particles, scratches or binding were found. After reassembly, routine stroke timing adjustments were made and pilot operation verified.

With such excellent experience, we judge the control air supply to be of superior quality. Since the proved experience has been so satisfactory, changes are not contemplated at this time. However, we intend to continue operational testing and/or visual inspection of pilot valves during refueling shutdown periods.

Additional information requested:

- a. The minimum clearance of pilot cylinder and piston cannot be accurately measured by the usual inplant micrometer measuring devices. The clearance provided during manufacture is of a proprietary nature and is not available to us. However, our minimum measurements indicate clearances of approximately 0.0005 inches.
- b. Cleanliness specifications, particles size as described above, and daily observations of dryer effluent quality, proper operation of condensate traps, and general operating conditions are the routine to assure maintaining air supply quality. Intake filters are cleaned as needed.
- c. The outside MSIV's are subjected to a normal ambient temperature of approximately 90 - 100°F. The summer maximum may reach 130 to 140°F at the pilot location. Temperature environment is maintained by forced air circulation from main steam tunnel to IV room thence to ventilation exhaust fans.



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- d. Maintenance inspections are made during the refueling shutdown each year and consists of dashpot refilling, test circuit timing, scram circuit timing. Beginning with this year, pilot valve sleeve and cylinder condition will be checked for cleanliness, foreign material, stickiness, etc.

In conclusion, "the failure to close" experiences related in your letter have not been present at Nine Mile Point Nuclear Station, Unit No. 1. However, the forewarning is important and focuses attention on the potential problem. We are taking steps to prevent such an occurrence in the future.

Very truly yours,



R. R. Schneider
Vice President - Electric Operations

RRS:pw

