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(TEMPORARY FORM)

CONTROL NO: 5703

FILE:

FROM: Niagara Mohawk Power Corporation Syracuse, N. Y. 13202 R. R. Schneider			DATE OF DOC 7-20-73	DATE REC'D 7-25-73	LTR X	MEMO	RPT	OTHER
TO: Mr. Skovholt			ORIG 3 signed	CC	OTHER	SENT AEC PDR X SENT LOCAL PDR X		
CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D 40		DOCKET NO: 50-220		
	XX							

DESCRIPTION:

Ltr furnishing requested info re drywell vacuum breakers at the Nine Mile Point Nuclear Station Unit # 1.....

ENCLOSURES:

ACKNOWLEDGED
Do Not Remove

PLANT NAME: Nine Mile Point Unit # 1

FOR ACTION/INFORMATION

7-25-73

AB

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R. DIGGS ON 7-25-73		

NIAGARA MOHAWK POWER CORPORATION

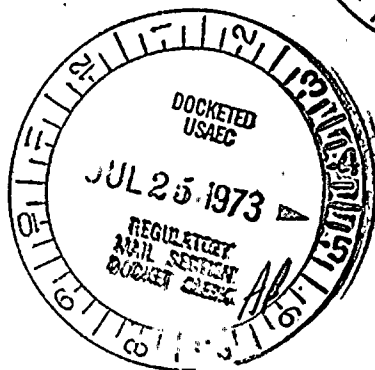
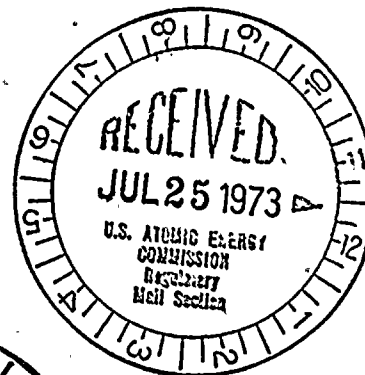
NIAGARA  MOHAWK300 ERIE BOULEVARD WEST
SYRACUSE, N.Y. 13202

July 20, 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: Provisional Operating License: DPR-17
Docket No.: 50-220



Regarding your letter requesting additional information concerning the drywell vacuum breakers at Nine Mile Point Nuclear Station Unit #1, the following is submitted:

ITEM 1

The present position indicating system utilizes two sets of limit switches, the snap lock limit switch manufactured by the National Acme Company and the Honeywell Model DTE6-2RN heavy duty, micro switches. The snap lock limit switch is used to determine and indicate the open position of any one valve to the control room. The Honeywell micro switch is used to determine and indicate the closed position of any one valve to the control room. This system was reviewed during the Spring 1973 refueling outage and the Honeywell micro switches installed at that time. Since the purpose of these limit switches is to provide the control room operator with information regarding the position of the breaker valves, physical separation of the control wiring or indicating lights is not required. However, an additional Honeywell limit switch will be installed to detect the closed position and provide an alarm to the control room in the event any drywell vacuum breaker valve moves off its seat a predetermined amount. Redundancies in the alarm circuit will thus be provided and IEEE 279 criteria satisfied. The pretravel on the Honeywell switch is .065" maximum and measurements have shown them to be .04" of pretravel. The vacuum breaker position is detected by those limit switches and are actuated by small arms attached to the valve shaft. The disc must travel approximately .2" before actuation of the limit switch is achieved. Therefore, the full potential accuracy cannot be realized due to the existing mounting of the switches. At the present time, the system is under a staff review to determine what must be done to achieve the desired accuracy of .05" - .06" of disc movement. This review should be completed within a month and actual implementations will take place, after appropriate reviews, within 30 - 60 days. The drywell vacuum breakers are completely accessible during the

power operating condition and thus on line modifications can be made. Until the accuracy of .05" - .06" disc opening can be met and the alarm redundancy completed the following will be done:

- a. Each reactor transient involving the suppression chamber will be followed with an operability test of the drywell vacuum breaker valves.
- b. A dial indication will be installed on each valve accurate to indicate .06" movement of the disc. This system will provide a daily surveillance of valve closure within the acceptable limits as in ITEM 3 below. These indicators will be installed prior to August 1, 1973.

ITEM 2

During the valve operability test, when air is released from the air test cylinder the valve rapidly closes leaving operating personnel no action to take to manually close the valve. However, to preclude against manual closure of the valve following testing a management person will be monitoring the testing at the test site (i.e. the valve location) to assure that no manual intervention takes place. See Item 1 response regarding valve operability test and other additional surveillance to be done until ITEM 1 is complied with in full.

ITEM 3

The limit on each individual valve will be set such that with all valves at their limit the maximum value of cumulative leakage will not exceed the maximum allowable. The value will be approximately .06" of disc travel off its seat and will be alarmed in the control room. The torus instruments that would be used for surveillance testing and leak rate testing of the drywell vacuum breaker valves read out in the auxiliary control room. Their range and accuracy are as follows:

Pressure : 0 - 50 psia \pm .05 psi

Temperature : 0 - 200°F \pm 1°F

PSID : 0 - 1.0 psid \pm .001 psi

The instrumentation used by the operator during an LOCA are in the control room and include not only an indicated pressure instrument but a recorder as well. Their range and accuracy is as follows:

Pressure : low 0 - 4 psig \pm .1 psi

high 0 - 75 psig \pm 1.5 psi

Temperature : 50 - 300°F \pm 5°F

The computer also records the drywell and pressure suppression chamber pressure and temperature as follows:

Pressure : 0 - 40 psig ± 1 psi-alarm at 2.5 psig

Temperature : 50 - 300°F ± 1 °F alarm at 100°F Torus, 120°F Drywell

ITEM 4

Technical Specification Considerations

Proposed Technical Specifications will be submitted separately after the necessary reviews are complete. Consideration is being given to adding the following conditions and surveillance requirements.

Limiting Conditions for Operation

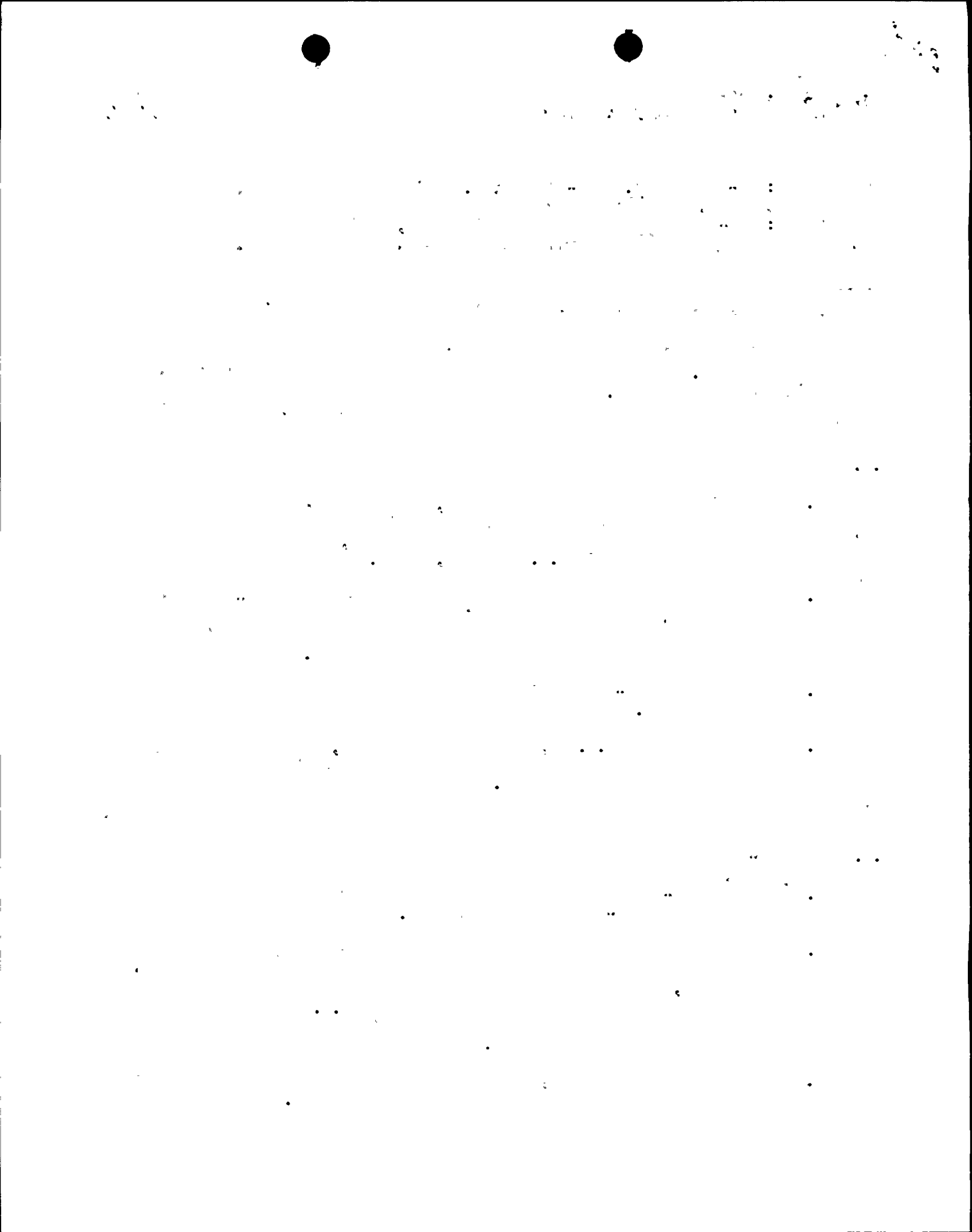
3.3.6 Drywell Pressure Suppression Chamber Vacuum Breakers

- a. When primary containment is required, all drywell-suppression chamber vacuum breakers shall be operable and positioned in the closed position as indicated by the position indication system, except during testing and except as specified in 3.3.6 b and c, below.
- b. Any drywell-suppression chamber vacuum breaker may be non-fully closed as indicated by the position indication system provided that a drywell to torus pressure differential can be maintained greater than 1/2 the initial differential pressure for 1 hour with no N₂ makeup.
- c. Up to one drywell-suppression chamber vacuum breaker may be secured in the closed position.
- d. If Specifications 3.3.6 a, b or c cannot be met, the situation shall be corrected within 24 hours or the reactor shall be placed in a cold shutdown condition within 24 hours.

Surveillance Requirements

4.3.6 Drywell-Pressure Suppression Chamber Vacuum Breakers

- a. Each drywell-suppression chamber vacuum breaker shall be exercised through an opening-closing cycle monthly.
- b. When it is determined that any vacuum breaker valve is not fully closed as indicated by the position indication system at a time when such closure is required, the apparently malfunctioning vacuum breaker valves shall be exercised and pressure tested as specified in 3.3.6 b immediately and every 15 days thereafter until the apparently malfunctioning valves have been returned to normal service.
- c. Once each operating cycle, each vacuum breaker valve shall be visually inspected to ensure proper maintenance and operation.



Mr. Donald J. Skovholt
United States Atomic Energy Commission

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- d. A leak test of the drywell to suppression chamber structure shall be conducted during each refueling outage.

We believe this report to be responsive to all items enumerated in your letter.

Very truly yours,



R. R. Schneider
Vice President - Electric Operations

RRS:pw

