

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8606270268 DOC. DATE: 86/06/23 NOTARIZED: YES DOCKET #
 FACIL: 50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Powe 05000220
 AUTH. NAME AUTHOR AFFILIATION
 MANGAN, C. V. Niagara Mohawk Power Corp.
 RECIP. NAME RECIPIENT AFFILIATION
 ZWOLINSKI, J. A. BWR Project Directorate 1

SUBJECT: Forwards Vals I & II to Rev 4 to updated FSAR for Nine Mile
 Point Nuclear Station Unit 1, incorporating Mods completed
 prior to 860101

Revised 7/3/86 SLD
 DISTRIBUTION CODE: A053D COPIES RECEIVED: LTR 1 ENCL 13 SIZE: 6+34
 TITLE: OR Submittal: Updated FSAR (50.71)

NOTES:

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| BWR | EICSB | 2 | 0 | BWR | FOB | 1 | 0 |
| BWR | PD1 LA | 1 | 0 | BWR | PD1 PD | 1 | 0 |
| KELLY, J | 01 | 1 | 1 | BWR | PSB | 1 | 0 |
| BWR | RSB | 1 | 0 | | | | |
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| | REG FILE | 02 | 1 | 1 | RGN1 | 06 | 2 |
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| | LPDR | 04 | 1 | 1 | NRC PDR | 03 | 1 |
| | NSIC | 1 | 1 | | | | |

Figure 1. Schematic representation of the experimental design. The subjects were divided into two groups: the control group (C) and the experimental group (E). The control group (C) was divided into two subgroups: the control group (C) and the control group (C). The experimental group (E) was divided into two subgroups: the experimental group (E) and the experimental group (E). The control group (C) was divided into two subgroups: the control group (C) and the control group (C). The experimental group (E) was divided into two subgroups: the experimental group (E) and the experimental group (E).

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Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The number of transformed cells was determined by the number of colonies obtained on the selective medium. The results are the mean of three independent experiments. Error bars represent standard deviation.

11-22-22

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The number of cells in the suspension was 100 million cells/ml. The concentration of the suspension was 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000, 10100, 10200, 10300, 10400, 10500, 10600, 10700, 10800, 10900, 11000, 11100, 11200, 11300, 11400, 11500, 11600, 11700, 11800, 11900, 12000, 12100, 12200, 12300, 12400, 12500, 12600, 12700, 12800, 12900, 13000, 13100, 13200, 13300, 13400, 13500, 13600, 13700, 13800, 13900, 14000, 14100, 14200, 14300, 14400, 14500, 14600, 14700, 14800, 14900, 15000, 15100, 15200, 15300, 15400, 15500, 15600, 15700, 15800, 15900, 16000, 16100, 16200, 16300, 16400, 16500, 16600, 16700, 16800, 16900, 17000, 17100, 17200, 17300, 17400, 17500, 17600, 17700, 17800, 17900, 18000, 18100, 18200, 18300, 18400, 18500, 18600, 18700, 18800, 18900, 19000, 19100, 19200, 19300, 19400, 19500, 19600, 19700, 19800, 19900, 20000, 20100, 20200, 20300, 20400, 20500, 20600, 20700, 20800, 20900, 21000, 21100, 21200, 21300, 21400, 21500, 21600, 21700, 21800, 21900, 22000, 22100, 22200, 22300, 22400, 22500, 22600, 22700, 22800, 22900, 23000, 23100, 23200, 23300, 23400, 23500, 23600, 23700, 23800, 23900, 24000, 24100, 24200, 24300, 24400, 24500, 24600, 24700, 24800, 24900, 25000, 25100, 25200, 25300, 25400, 25500, 25600, 25700, 25800, 25900, 26000, 26100, 26200, 26300, 26400, 26500, 26600, 26700, 26800, 26900, 27000, 27100, 27200, 27300, 27400, 27500, 27600, 27700, 27800, 27900, 28000, 28100, 28200, 28300, 28400, 28500, 28600, 28700, 28800, 28900, 29000, 29100, 29200, 29300, 29400, 29500, 29600, 29700, 29800, 29900, 30000, 30100, 30200, 30300, 30400, 30500, 30600, 30700, 30800, 30900, 31000, 31100, 31200, 31300, 31400, 31500, 31600, 31700, 31800, 31900, 32000, 32100, 32200, 32300, 32400, 32500, 32600, 32700, 32800, 32900, 33000, 33100, 33200, 33300, 33400, 33500, 33600, 33700, 33800, 33900, 34000, 34100, 34200, 34300, 34400, 34500, 34600, 34700, 34800, 34900, 35000, 35100, 35200, 35300, 35400, 35500, 35600, 35700, 35800, 35900, 36000, 36100, 36200, 36300, 36400, 36500, 36600, 36700, 36800, 36900, 37000, 37100, 37200, 37300, 37400, 37500, 37600, 37700, 37800, 37900, 38000, 38100, 38200, 38300, 38400, 38500, 38600, 38700, 38800, 38900, 39000, 39100, 39200, 39300, 39400, 39500, 39600, 39700, 39800, 39900, 40000, 40100, 40200, 40300, 40400, 40500, 40600, 40700, 40800, 40900, 41000, 41100, 41200, 41300, 41400, 41500, 41600, 41700, 41800, 41900, 42000, 42100, 42200, 42300, 42400, 42500, 42600, 42700, 42800, 42900, 43000, 43100, 43200, 43300, 43400, 43500, 43600, 43700, 43800, 43900, 44000, 44100, 44200, 44300, 44400, 44500, 44600, 44700, 44800, 44900, 45000, 45100, 45200, 45300, 45400, 45500, 45600, 45700, 45800, 45900, 46000, 46100, 46200, 46300, 46400, 46500, 46600, 46700, 46800, 46900, 47000, 47100, 47200, 47300, 47400, 47500, 47600, 47700, 47800, 47900, 48000, 48100, 48200, 48300, 48400, 48500, 48600, 48700, 48800, 48900, 49000, 49100, 49200, 49300, 49400, 49500, 49600, 49700, 49800, 49900, 50000, 50100, 50200, 50300, 50400, 50500, 50600, 50700, 50800, 50900, 51000, 51100, 51200, 51300, 51400, 51500, 51600, 51700, 51800, 51900, 52000, 52100, 52200, 52300, 52400, 52500, 52600, 52700, 52800, 52900, 53000, 53100, 53200, 53300, 53400, 53500, 53600, 53700, 53800, 53900, 54000, 54100, 54200, 54300, 54400, 54500, 54600, 54700, 54800, 54900, 55000, 55100, 55200, 55300, 55400, 55500, 55600, 55700, 55800, 55900, 56000, 56100, 56200, 56300, 56400, 56500, 56600, 56700, 56800, 56900, 57000, 57100, 57200, 57300, 57400, 57500, 57600, 57700, 57800, 57900, 58000, 58100, 58200, 58300, 58400, 58500, 58600, 58700, 58800, 58900, 59000, 59100, 592

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NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315) 474-1511

June 23, 1986

NMP1L 0071

Director of Nuclear Reactor Regulation
Attention: Mr. John A. Zwolinski, Project Director
BWR Project Directorate Number 1
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Dear Mr. Zwolinski:

Niagara Mohawk Power Corporation hereby submits one (1) signed original and twelve (12) copies of Revision 4 to the Nine Mile Point Nuclear Station Unit 1 Final Safety Analysis Report (Updated). This revision supplies information on a replacement page basis, as indicated on Table 1. A vertical bar indicates changes. Vertical bars were not placed next to figure changes; figure changes are indicated by revision numbers.

In addition, Table 2 (attached) lists modifications made in accordance with 10CFR50.59 since the last submittal of the Final Safety Analysis Report (Updated) on June 27, 1985. Modifications completed prior to January 1, 1986 were reviewed and, if applicable, incorporated into the Final Safety Analysis Report (Updated).

Sincerely,

NIAGARA MOHAWK POWER CORPORATION

C. V. Mangano
C. V. Mangano
Senior Vice President

DPC:bd
Attachments
xc: Mr. Jay Dunkleberger
Division of Policy Analysis and Planning
New York State Energy Office
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Albany, NY 12223

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CHRISTINE AUSTIN
Notary Public in the State of New York
Qualified in Onondaga Co. No. 4787687
My Commission Expires March 30, 1987

OFFICE OF THE
ATTORNEY GENERAL
STATE OF NEW YORK
ALBANY, N. Y.
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NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT UNIT 1

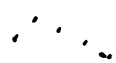
Table 2

Modifications Implemented Under 10CFR50.59 Not Previously
Submitted to the Nuclear Regulatory Commission*

| <u>Mod. Number</u> | <u>Modification Description</u> |
|--------------------|---|
| 78-04 | Install nitrogen supply valve in Train 11 of the containment atmosphere dilution system |
| 78-21 | Add welding outlets on elevation 198 of Reactor Building |
| 80-90 | Modify turbine generator sequential trip circuit by adding "motoring" relays to provide overspeed protection by verifying that all steam sources are closed off before opening turbine-generator breakers. |
| 81-27 | Replace breathing air service water compressor 'Y' strainers with duplex strainers |
| 81-36 | Install manual (normally locked-open) isolation valve in nitrogen supply line to containment atmospheric dilution system for maintenance. |
| 82-03 | Change detect zones (D-1114 & DA-1114) H2 seal oil from Class A to Class B. Ref. NRC's SER to Amendment 30. |
| 82-33 | Modify turbine thrust bearing wear detectors per GE technical information letter. |
| 82-57 | Install Reactor Building sprinkler system drain tank level switch column isolation valve and testing tee. Provide level switch probe clearance and valve tee assembly for calibration. |
| 82-69-1 | Upgrade the feedwater low flow control during startup, shutdown and hot standby to resolve NUREG-0619 feedwater nozzle cracking (thermal cycles) concerns. Also modified the motor driven feedwater recirculation system. |
| 82-69-3 | Install redundant high pressure coolant injection initiation circuits for reliability. |

* While some modifications may have been performed earlier, inclusion indicates closeout of the entire modification package.

| <u>Mod. Number</u> | <u>Modification Description</u> |
|--------------------|---|
| 82-80-5 | Revise logic on emergency condenser vent isolation valves to include confirmatory logic. |
| 83-16 | Replace waste collector filter recycle pump with pump made by Gould. (Base and piping also modified). Original vendor (Delaval) no longer manufactures this pump, which was leaking at the casing flange and could not be repaired. |
| 83-30 | Replaced Turbine Building closed loop cooling heat exchangers 11 & 12. |
| 83-30-2 | Replace closed loop cooling heat exchanger (part of 83-30 above) |
| 83-35 | Addition of roof alarm (23') and camera at northwest wall of security annex. |
| 83-36 | Additional document control (NSR) electrical outlets to support additional office space and equipment for records storage, drawing control room and computer tech shop. |
| 83-46 | Prime computer; power upgrade - add 16 outlets (RM246-1) to accommodate additional computer peripherals and communications equipment. |
| 83-81 | Upgrade Reactor Building fire barrier wall (NSR) piping penetration seals to 3 hour IEEE-634. |
| 84-19 | Cut and relocate section of breathing air pipe so that post-LOCA vent line may be installed at Reactor Building E1 281'. |
| 84-29 | Accurex Upgrade - To provide reliable use of the fuel zone water level monitoring system hardware/software mod's per GE FDI NTCB. |
| 84-31 | Replace the power cable to the reactor shutdown cooling system return line isolation valve motor-operator and DC valve board (outside the drywell) with a larger cable to improve performance by minimizing motor burnout. |
| 84-35 | Relocate 3 smoke detectors in digital computer room (auxiliary control room) to avoid discharge from air supply diffuser, per NRC Inpsection 84-06. |
| 84-50 | Modify twelve input risers to Waste Disposal Building Sump #13 to minimize stoppage in floor drains and consequential contamination. |



[The body of the document contains several paragraphs of text that are extremely faint and illegible due to the quality of the scan. The text appears to be organized into multiple sections, possibly separated by headings or subheadings, but the specific content cannot be discerned.]

| <u>Mod. Number</u> | <u>Modification Description</u> |
|--------------------|--|
| 84-51 | Screen wash pump; replace with mechanical seals. Also changed butterfly valve to plug valve. |
| 84-004 | Replace diesel fire pump governor inlet and discharge and pump bearing oil solenoid valves to provide manual start capability upon loss of power. |
| 85-012 | Relocate supply voltage source for cleanup system isolation valves from powerboard 167 to 161B & 171B and add thermal overload bypasses to satisfy environmental qualifications. |

NIAGARA MOHAWK POWER CORPORATION
 NINE MILE POINT UNIT 1 FINAL SAFETY ANALYSIS REPORT (UPDATED)
 REVISION 4 (1986)

Table 1

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| XV-159 | XV-159 |



THE UNITED STATES OF AMERICA

DEPARTMENT OF JUSTICE

OFFICE OF THE ATTORNEY GENERAL

MEMORANDUM FOR THE ATTORNEY GENERAL

SUBJECT: [Illegible]

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