Niagara Mohawk®

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February 28, 2001
NMP2L 2011

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

10 C.F.R. §50.71(e)
10 C.F.R. §50.59(b)

RE: Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Subject: ***Submittal of Revision 14 to the Nine Mile Point Nuclear Station Unit 2 Updated Safety Analysis Report and the 10 C.F.R. §50.59 Safety Evaluation Summary Report (TAC No. MB1162)***

Gentlemen:

Pursuant to the requirements of 10 C.F.R. §50.71(e) and 10 C.F.R. §50.59(b), Niagara Mohawk Power Corporation hereby submits Revision 14 to the Nine Mile Point Nuclear Station Unit 2 Updated Safety Analysis Report (USAR) and the related Safety Evaluation Summary Report.

One (1) signed original and ten (10) copies of the USAR, Revision 14, are enclosed. Copies are also being sent directly to the Regional Administrator, Region I, and the NRC Resident Inspector at Nine Mile Point. This mid-cycle USAR revision incorporates changes made since the submittal of Revision 13 in October 2000, up to and including December 1, 2000. In particular, this revision incorporates the effects of information and analyses submitted to the Commission in support of License Amendment 91, issued February 15, 2000, regarding Improved Technical Specifications. The certification required by 10 C.F.R. §50.71(e) is attached.

The enclosed Safety Evaluation Summary Report (Enclosure A) contains a brief description of changes, tests, and experiments, and includes a summary of the safety evaluation of each.

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The Safety Evaluation Summary Report also provides an identification of changes made to the USAR and Technical Requirements Manual under the provisions of §50.59 but not previously submitted to the Commission.

None of the changes, tests, or experiments involved an unreviewed safety question as defined in 10 C.F.R. §50.59(a)(2).

Very truly yours,

Richard B. Abbott
Vice President Nuclear Engineering

RBA/LWB/cld
Enclosures

xc: Mr. H. J. Miller, NRC Regional Administrator, Region I
Ms. M.K. Gamberoni, Section Chief PD-I, Section 1, NRR
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. P. S. Tam, Senior Project Manager, NRR
Records Management

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
Niagara Mohawk Power Corporation	)	Docket No. 50-410
	)	
(Nine Mile Point Nuclear Station Unit 2)	)	

CERTIFICATION

Richard B. Abbott, being duly sworn, states that he is Vice President Nuclear Engineering of Niagara Mohawk Power Corporation; that he is authorized on the part of said Company to sign and file with the Nuclear Regulatory Commission this certification; and that, in accordance with 10 C.F.R. §50.71(e)(2), the information contained in the attached letter and updated Final Safety Analysis Report accurately presents changes made since the previous submittal necessary to reflect information and analyses submitted to the Commission or prepared pursuant to Commission requirements and contains an identification of changes made under the provisions of §50.59 but not previously submitted to the Commission.

By: Richard B. Abbott
Richard B. Abbott
Vice President Nuclear Engineering

Subscribed and sworn to before me
this 28 day of February, 2001

Notary Public in and for

Oswego County, New York

My Commission Expires:

Lisa M. Clark

LISA M. CLARK
Notary Public in the State of New York
Oswego County Reg. No. 01CL6029220
My Commission Expires 8/9/2001

Enclosure A to
NMP2L 2011

NINE MILE POINT - UNIT 2

SAFETY EVALUATION SUMMARY REPORT

2001

Docket No. 50-410
License No. NPF-69

Safety Evaluation No.: 97-036

Implementation Document No.: DDCs 2M11124, 2E11323

USAR Affected Pages: 9.5-18; Table 9.5-2 Sh 7, 8; Figure 9.3-10j

System: Turbine Building Floor Drains (DFT)

Title of Change: Sump Pumps Added To The Service Water Tunnel

Description of Change:

Due to minor flooding and the collection of water caused by the infiltration of groundwater within the Service Water Tunnel area, sump pumps and associated piping were installed to remove standing groundwater. Three permanent submersible sump pumps and lighting were also installed in the Service Water Tunnel, located in the southwest corner of the Unit 2 Turbine Building at El. 245'-0".

Safety Evaluation Summary:

The addition of sump pumps and associated piping in the southwest portion of the Service Water Tunnel will allow for proper drainage of the standing water caused by groundwater infiltration within the tunnel. Seismic Exception Evaluation No. 0636 determined that the failure of the sump pumps and piping during a seismic event will have no impact on any plant system or component required for safe operation or shutdown of the plant. Due to the small loading conditions generated by the sump pumps and the small bore piping, failure of this drain system would cause no damage to the 30" diameter service water lines or to the concrete tunnel. ASME Section XI Code requires inservice inspection of the Service Water Tunnel piping once every 40 months. Lighting and convenience outlets are being added to assist maintenance personnel. The lighting, convenience outlet and the dedicated pump outlet circuits are supplied from local nonsafety-related normal lighting panel 2LAT-PNLN11. The implementation of this change will be performed in accordance with engineering and plant procedures.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 98-082

Implementation Document No.: DDC 2F01915

USAR Affected Pages: Figures 10.1-3g, 10.1-3h

System: Main Steam (MSS)

Title of Change: Elimination of Relief Valves 2MSS-RV95A and 2MSS-RV95B

Description of Change:

Relief valves 2MSS-RV95A and 2MSS-RV95B were experiencing leakage through various thermal joints in the piping assembly. In order to reduce maintenance costs associated with leak sealing and subsequent repair, these relief valves were permanently removed from the plant.

Valves 2MSS-RV95A and 2MSS-RV95B were installed on 2MSS-AOV92A and 2MSS-AOV92B to provide overpressure protection due to thermal expansion of fluid entrapped in the bonnet of the valve. During normal operation, 2MSS-AOV92A and 2MSS-AOV92B are open, providing a steam flow path to the moisture separator reheaters. The valves are closed during shutdown conditions and the initial stages of plant startup. In this steam application, fluid buildup in the valve bonnet could happen during hydrostatic testing, or if the bonnet was filled with condensate. In each of these two conditions, the reactor would have to be shut down as a precursor to causing the bonnet overpressure condition. The steam valves are exercised after shutdown prior to steam being admitted into the piping. Therefore, the valve bonnets drain and the possibility of fluid expansion in the bonnet is precluded.

Safety Evaluation Summary:

In order to remove relief valves 2MSS-RV95A and 2MSS-RV95B, administrative controls will be implemented to exercise 2MSS-AOV92A and 2MSS-AOV92B whenever the steam piping has been hydrostatically tested. With this action, no possibility of fluid buildup on the bonnets would exist and the possibility of overpressure conditions is eliminated. Based on the review of the evaluated accidents described in the USAR, none of the accidents or their probability of occurrence are impacted or changed. Removing these relief valves will not increase the consequences of an accident previously evaluated in the USAR. Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 99-034 Rev. 0 & 1

Implementation Document No.: Mod. N2-89-076

USAR Affected Pages: Tables 2.2-5 Sh 1, 3.2-1 Sh 18a, 34; Figures 1.2-1, 1.2-2

System: Hydrogen Water Chemistry (HWC)

Title of Change: HWC System Auxiliary Hydrogen and Oxygen (H_2/O_2) Storage Facility

Description of Change:

This safety evaluation addresses the design, installation and operation of common auxiliary H_2 and O_2 storage facilities and the associated supply piping and grounding provisions, up to the exterior interfaces with the Unit 1 and Unit 2 HWC systems. Hydrogen is supplied from a portable tube trailer facility located outside the security fence, north of the Engineering Services Building (ESB), approximately 240 feet east of the Unit 2 stack and 800 feet from the nearest safety-related structure (Unit 2 side). The hydrogen storage tubes are designed to Department of Transportation requirements and hold a maximum nominal volume of 139,000 scf of hydrogen in various tube configurations. The foundation accommodates two 139,000 scf trailers and required restraints. The location of the auxiliary storage facility was selected to minimize the potential consequence of a tank rupture or excessive leakage. The oxygen supply is produced from a 3,000-gallon liquid oxygen trailer with integral vaporizer. The oxygen facility is located in the same general area as the hydrogen facility, approximately 90 feet west of the hydrogen tanks and 715 feet from the nearest safety-related structure air intake.

Safety Evaluation Summary:

The H_2 and O_2 storage containers are located away from electric power lines in an area that is free from potential interaction due to line or pole failures. A drainage ditch was installed between the hydrogen and oxygen storage areas so that liquid spills from the oxygen area will not flow toward, or pond under, the hydrogen storage tanks. The storage facilities are individually fenced and lighted to facilitate night surveillance. Truck barriers were placed around the perimeter of the storage facilities and exposed aboveground piping was installed for protection in case of vehicular accidents. The areas beneath the oxygen storage trailer and from points at ground level where liquids may spill are made of concrete, and the joints are constructed of noncombustible material. The hydrogen and oxygen truck delivery routes were reviewed to ensure that the trucks maintain the separation distance requirements to safety-related structures, components and air intakes. The

Safety Evaluation No.: 99-034 Rev. 0 & 1 (Cont'd.)

Description of Change: (Cont'd.)

storage facility safety features include relief valves for overpressure protection, isolation valves, and excess flow check valves to limit gas flow in the event of a pipe break.

Protection against uncontrolled hydrogen or oxygen releases is provided via excess flow check valves located at each auxiliary facility. These valves will close if a large flow surge occurs in the downstream piping. A grounding wire was routed from the plant grounding grid to the auxiliary storage facilities. This wire was separated from the hydrogen and oxygen piping to prevent sparks or electrical interaction.

Safety Evaluation Summary:

This safety evaluation does not address the design of the HWC systems beyond the interface connections with the H_2 and O_2 piping located outside the plant. Startup and operational testing of the HWC systems themselves, including an assessment of the radiological impacts associated with system operation, will be addressed under a separate safety evaluation.

Based on a review of the auxiliary hydrogen and oxygen system design, it was determined that the new system meets the requirements of EPRI Report No. NP-5283-SR-A (and associated NRC Safety Evaluation), and all exceptions have been reconciled. It was also determined that the system satisfies the applicable site-specific codes, standards and regulatory requirements.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 99-083

Implementation Document No.: Mod. PN2Y89MX076

USAR Affected Pages: 9.3-22; Table 9.3-1 Sh 1; Figures 9.3-5d, 9.3-5g, 9.3-6 Sh 3, 9.3-20b, 10.1-6e

System: Reactor Recirculation (RCS), Reactor Water Cleanup (WCS), Reactor Plant Sampling (SSR)

Title of Change: RCS/WCS H2 Analyzer Unit

Description of Change:

This modification added a permanent hydrogen monitoring unit in local panel 2SSR-IPNL145 at Reactor Building El. 240'. In addition, turbidity meter 2SSR-AIT156 was retired and removed from the same panel to accommodate installation of the new H2 analyzer. The H2 monitoring unit must be operational prior to injecting hydrogen into the feedwater system. The hydrogen monitoring unit includes the H2 analyzer indicator, H2 sensor/membrane, sampling and conditioning unit, the associated tubing, and mounting supports.

Safety Evaluation Summary:

All the tubing and valves will be installed seismically in accordance with the existing requirements. This change does not introduce any new accident initiator, and the failures of the new sample lines are bound by the existing postulated failure modes as described in the USAR. Therefore, the changes do not increase probability of occurrence of an accident previously evaluated in the USAR.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	99-088 Rev. 1
Implementation Document No.:	Design Change N2-89-076
USAR Affected Pages:	Figures 9.3-1b, 10.1-5b, 11.3-1a
System:	Hydrogen Water Chemistry (HWC), Condensate (CNM), Feedwater (FWS), Offgas (OFG), Condensate Air Removal (ARC), Instrument Air (IAS)
Title of Change:	Operation of Hydrogen Water Chemistry (HWC) System

Description of Change:

This safety evaluation addresses continuous operation of the HWC system prior to noble metal chemical addition (NMCA).

The purpose of the HWC program is to reduce rates of intergranular stress corrosion cracking (IGSCC) in the recirculation piping and reactor vessel internals. The HWC system includes the flow monitoring and control equipment for both hydrogen and oxygen, a system control panel, and an offgas monitor panel. The Control Room interface includes a shutdown switch, annunciation and status lights. The system is connected to the bulk hydrogen and oxygen supply systems. The hydrogen injection rate will be maintained at a level based on industry data that will attain in-vessel protection once NMCA is applied. The maximum hydrogen injection rate will be limited to a level which will not invalidate the background assumptions used in the main steam line radiation monitor (MSLRM) alarm setpoint calculation. This injection rate will be maintained until NMCA, in order to pre-condition reactor vessel internal surfaces and recirculation piping.

Safety Evaluation Summary:

Operation of the HWC system will not introduce any new initiating event to the precursor event of "Offgas System Failure". Consequently, the probability of the accident "Radioactive release from subsystem and component" (USAR Section 15.7) resulting from the precursor event of "Offgas System Failure" will not change.

If the hydrogen flow control valve fails in the full open position due to programmable logic controller (PLC) lock-up or failure of the flow transmitter, the hydrogen injection rate will be as high as 90 scfm. This condition will be detected

Safety Evaluation No.: 99-088 Rev. 1 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

by MSLRM readings increasing and alarming, and under worst scenario, it may cause main steam isolation valves (MSIV) to close. Operator action will be required at HWC control panels 100 and 500 to manually isolate the system. Based on industry experiences, there is no known condition that will result in PLC lock-up concurrent with hydrogen injection flow control valve wide open; its frequency is considered to be low. In addition, the frequency of the flow transmitter failure is also low and the high hydrogen flow trip setpoint in the HWC system will prevent excess hydrogen injection. Therefore, its contribution to overall frequency of a precursor event "MSIVs closure" is small, and its contribution to overall probability of an accident "Increase in reactor pressure" is negligible. With procedural controls in place to minimize the potential of chemistry excursion, operation of the HWC will not increase the probability of a MSIV closure event previously evaluated in the USAR.

Review of Chapter 15 of the USAR indicates that the accidents applicable to this modification are USAR Section 15.7, "Radioactive Release From Subsystems and Components," due to pressure boundary failure, and USAR Section 15.2.5, "Increase in Reactor Pressure," due to loss of condenser vacuum from loss of the OFG system. Addition of hydrogen will potentially result in OFG system hydrogen detonation, gven certain credible equipment failures, since the system will no longer isolate on high hydrogen concentrations. The OFG system is designed to withstand the worst-case detonation scenario. The equipment is expected to continue to function. There is a redundant pump should a pump fail. In the unlikely event of a charcoal fire, the charcoal beds can be isolated and bypassed to extinguish the fire without causing a plant trip. Therefore, removal of the hydrogen trip and a consequential detonation will not cause a failure of the OFG system or impact any other plant equipment. Maintaining the pressure boundary after detonation assures that there is no increase in the probability of the accident evaluated in USAR Section 15.7. The availability of the OFG system after a detonation event assures there is no increase in the probability of an accident previously evaluated in Section 15.2.5. The HWC injection will help mitigate IGSCC and irradiation assisted stress corrosion cracking of reactor internal components and the reactor recirculation system. This reduces the potential for failure of the reactor coolant pressure boundary.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	99-090
Implementation Document No.:	Regulatory Guide 1.78
USAR Affected Pages:	6.4-5
System:	N/A
Title of Change:	Storage of Control Room Self-Contained Breathing Apparatus and Full-Face Respirators

Description of Change:

The USAR stated that self-contained breathing apparatus (SCBA) equipment and full-face respirators designated for use by Control Room personnel were stored in the Main Control Room. This equipment is located outside the south entrance door of the Main Control Room but are within the ventilation protected Main Control Room envelope (Control Building El. 306'-0"). The USAR has been revised to state that this equipment is stored in the Main Control Room envelope in a location readily accessible to Control Room personnel.

Safety Evaluation Summary:

These SCBAs and respirators are readily accessible to Control Room personnel, and the time required for Control Room personnel to reach and don them during an emergency or accident condition is not adversely impacted by this storage location. This change does not adversely affect any postulated consequence of a fire, chemical or radiological accident; it does not adversely affect any structure, system or component important to safety; it has no effect on the ability of the plant to achieve and maintain safe shutdown; and it does not compromise the conformance with any regulatory requirements or commitments.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-042

Implementation Document No.: Engineering Report NER-2E-005

USAR Affected Pages: Tables 9B.8-1 Sh 1, 4, 6, 13, 16-18, 20-22, 24, 25, 27, 28, 30, 33, 35, 40, 9B.8-2 Sh 5, 6, 9-11, 14, 15

System: N/A

Title of Change: Changes in USAR Appendix 9B (10CFR50 Appendix R Issues)

Description of Change:

USAR Table 9B.8-1 lists the fire areas, and the fire zones and equipment within these areas. It is postulated that, with a fire in any one fire area, including fire area 26 (Control Room) or 24 (Relay Room), all equipment located in the affected area, or cables routed in the area, would be lost and considered not available. As such, each fire area, including Control Room and Relay Room, is analyzed individually to identify the fire-impacted equipment and shutdown trains to determine the means for safely shutting down the reactor and maintaining cooldown.

Recent internal inspection and reevaluation of the program indicated potential deficiencies in the selection of equipment listed in Table 9B.8-1. As a result of a comprehensive evaluation of the NMP2 Appendix R Program, no deficiencies were found in the plant design. However, the evaluation did identify a number of discrepancies between the plant actual design configuration and controlled documentation describing the design.

Evaluation of the NMP2 safe shutdown system/equipment requirements and plant design did not identify any additional design deficiencies. All Appendix R related design deficiencies identified by previous evaluation have been corrected using the plant corrective action process. However, Engineering Report NER-2E-005 identified a number of deficiencies related to inconsistencies between USAR Table 9B.8-1 and actual plant Appendix R design, and USAR Table 9B.8-2, and plant operating procedures, and configuration control of the Appendix R related emergency lighting system.

USAR Tables 9B.8-1 and 9B.8-2 have been revised to correct the inconsistencies.

Safety Evaluation No.: 00-042 (Cont'd.)

Safety Evaluation Summary:

Based on the above analysis, this change does not increase the probability of occurrence or consequences of an accident or malfunction of equipment evaluated previously in the USAR; nor does it create the possibility of an accident or malfunction of equipment of a different type than analyzed in the USAR. There is no decrease in the margin of safety and no adverse impact on the safe operation or shutdown of NMP2. In addition there is no adverse effect on the ALARA program, Equipment Qualification, ISI, IST, Fire Protection, Fuels, or Control Room Habitability.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-043
Implementation Document No.:	Procedures N2-FSP-FPP-R001, N2-FSP-FPP-R002, N2-FPM-FPW-R003
USAR Affected Pages:	9A.3-32, 9A.3-55
System:	N/A
Title of Change:	Change of Surveillance Frequencies to Once Per Operating Cycle (24 Months) for Fire Rated Assemblies, Fire Dampers, Penetration Sealing Devices and Manual Hose Stations

Description of Change:

The recent operating (fuel) cycle change, from 18 months to 24 months, necessitates changes in the procedure requirements, as described in the USAR, for the inspection of each penetration sealing device and fire damper. The change in the operating cycle will also require visual inspections to be performed on fire-rated assemblies and manual fire hose stations on a 24-month frequency.

This safety evaluation evaluated 1) extending the requirements to inspect each penetration sealing device and to inspect/test each fire damper every 10 cycles, which equates to once every 20 years, and 2) changing the procedure requirements, as described in the USAR, to inspect the fire-rated assemblies and fire hose stations once every 24 months or operating cycle, plus a maximum of 25 percent of one operating cycle.

Safety Evaluation Summary:

The requirement to visually inspect each fire-rated assembly is to perform this surveillance on a frequency of "at least once per operating cycle." This requirement is intended to allow the inspections to be performed during a refuel cycle outage when ALARA (as low as reasonably achievable) can be practiced. The change of the operating cycle from 18 months to 24 months does not alter the intent of the requirement or impact the probability of occurrence of an accident. The change of the frequency from 18 months to 24 months to visually inspect the fire hose stations not accessible during plant operations is to allow these fire hose stations to be inspected during a refuel cycle outage for the reason of maintaining appropriate ALARA practice. The new changes still provide assurance that these components will contribute to the philosophy of defense-in-depth protection. The changes do not introduce any ignition sources or

Safety Evaluation No.: 00-043 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

combustibles that would increase the probability of a fire, which is the accident previously evaluated in the USAR. Therefore, the proposed changes or activities do not increase the probability of occurrence of an accident previously evaluated in the USAR.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-046

Implementation Document No.: Temporary Mod. 2000-008

USAR Affected Pages: N/A

System: Service Water (SWP)

Title of Change: Service Water System (SWP) Low Flow Trip Avoidance

Description of Change:

The primary SWP pumps (i.e., 2SWP*P1A through 2SWP*P1F) are provided with automatic protection to trip during sustained low flow conditions. A review of the hydraulic performance during loss of offsite power (LOOP) and LOOP/loss-of-coolant accident (LOCA) scenarios identified a vulnerability to low flow pump trips. The analysis considered a normal post-LOOP and LOOP/LOCA lineup, with a limiting single failure. The single failure was selected to maximize the reduction in service water flow. The failure of a Division I or Division II diesel generator was not considered, since this failure in and of itself renders the associated pumps inoperable. The results of the analysis determined that the minimum postulated flow rates on the Division I and Division II headers are approximately 1,900 gpm and 1,800 gpm, respectively. The limiting low flow trip reset, considering worst-case uncertainties on the flow instrumentation, requires a flow in excess of 2,100 gpm to sustain operation of the service water pumps. As such, it can be postulated that the pumps could trip during this condition.

This safety evaluation analyzed the acceptability of establishing, under Temporary Modification 2000-008, a continuous flow path through the Division I and Division II residual heat removal (RHR) heat exchangers to preclude the loss of the service water pumps. This change also provided margin to accommodate equipment manipulations for maintenance and testing. Flow is controlled by opening heat exchanger inlet valves 2SWP*MOV90A and *MOV90B and throttling heat exchanger outlet valves 2SWP*MOV33A and *MOV33B. This change has no impact on the operation of the residual heat removal system interface with the heat exchangers.

Safety Evaluation Summary:

Design Calculation A10.1-N-341, Disposition 00C, determined that throttling a minimum of 500 gpm of service water flow through the RHR heat exchanger during normal 4-pump operation ensures pump flow rates in excess of 2,400 gpm during LOOP and LOCA/LOOP conditions. The design analysis for this scenario credits only the 500 gpm excess established in the normal lineup. Operation in the

Safety Evaluation No.: 00-046 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

LOOP and LOCA/LOOP configuration pushes the pumps back on their curves, increasing the available head. This results in a net increase in the flow rate through the heat exchangers during low flow operation. This design was established to provide margin to account for instrument uncertainty during setup.

The resulting flow rate exceeds the manufacturer's minimum recommended flow rate for continuous pump operation, and provides in excess of 10 percent margin to trip. System lineups must be monitored to ensure compliance with the minimum flow criteria established in the limiting 3-pump LOCA analysis. It should be noted that throttling of the RHR heat exchanger is required for trip avoidance alone. Automatic sequencing of equipment during LOOP and LOCA/LOOP scenarios ensures compliance with the vendor's minimum short-term flow recommendations. This action can easily be completed without crediting Operator action during the first 10 minutes of the event.

A review of the design analysis for maximum flow conditions verified that up to 1,000 gpm per heat exchanger (i.e., 2,000 gpm total) of flow can be accommodated during 4-pump operation. As such, the trip avoidance flow rate should be set between 500 gpm and 900 gpm to ensure compliance with the minimum and maximum flow rate limits.

Based on these considerations, it was determined that the proposed temporary modification does not involve a change to any plant Technical Specification. Furthermore, it was determined that the proposed change does not increase the probability of occurrence of accidents or malfunctions, nor does it increase the consequences of accidents or malfunctions previously evaluated in the USAR. Additionally, the proposed change does not create the possibility of an accident or malfunction of a different type than any previously evaluated in the USAR, nor does it reduce the margin of safety as defined in the basis of any Technical Specifications.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-048

Implementation Document No.: Design Change N2-00-024

USAR Affected Pages: 9.2-7a, 9.2-28; Figures 9.2-1a, 9.2-1b, 9.2-2 Sh 1 thru 3

System: Service Water (SWP)

Title of Change: Removal of SWP Pumps' Low Flow Trip

Description of Change:

This design change modified the primary SWP pumps' (2SWP*P1A through 2SWP*P1F) low flow trip and alarm to a low flow alarm only (removing the pump low flow trip). This change allowed the removal of Temporary Modification (TM) 2000-008, which added a continuous flow path through the Division I and II residual heat removal system heat exchangers to preclude the loss of SWP pumps upon a loss of offsite power (LOOP), or a LOOP coincident with a loss-of-coolant accident (LOOP/LOCA).

Safety Evaluation Summary:

None of the accidents, nor their probability of occurrence, are affected by this change. This will ensure that General Design Criteria 35 and 44 are satisfied without the need for TM 2000-008. Furthermore, no new accident initiators (or precursors) will be added as a result of this change.

Based on review of the evaluated accidents described in the USAR, the proposed change is not related to, nor will it degrade or prevent, actions described or assumed in the accidents discussed. The SWP pump low flow trip is considered a nonessential protective feature, which is not relied upon by any system to perform its intended safety function. Therefore, this change will not increase the probability of occurrence of an accident previously evaluated in the USAR.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-054

Implementation Document No.: DDC 2E12114

USAR Affected Pages: 5.4-17; Figure 7.4-1 Sh 1

System: Reactor Core Isolation Cooling (ICS)

Title of Change: RCIC Time Delay Relays Setpoints for Steam Line Isolation Logic

Description of Change:

This safety evaluation evaluated removal of a number from USAR Figure 7.4-1 Sheet 1. The figure is a RCIC system logic flowchart. The number being removed is 3 seconds, which is a reference to a specific time delay value within the allowable range for steam line isolation logic function.

Safety Evaluation Summary:

This configuration change only affects the documentation for the four affected time delay relays. There is no change to the plant systems design logic or operation. Therefore, there is no effect on nuclear safety in a way not previously evaluated.

The constructability aspects of this change are not a factor since this change requires no field work. The affected relays are calibrated and operating within the desired range.

The proposed change does not increase the consequences of accidents previously evaluated in the USAR and does not adversely affect the safe operation or shutdown of the plant.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-055
Implementation Document No.:	Configuration Change 2E12071
USAR Affected Pages:	Table 8.3-1 Sh 29, 30
System:	Reactor Water Cleanup (WCS)
Title of Change:	USAR Table 8.3-1 Revision for 2WCS*MOV104, 2WCS*MOV105, 2WCS*MOV101

Description of Change:

USAR Table 8.3-1 has been revised to reflect a horsepower rating of 0.7 for valves 2WCS*MOV104 and 2WCS*MOV105. Also, the nonaccident starting and running KW and KVAR loading has been revised for these two valves, as well as valve 2WCS*MOV101.

Safety Evaluation Summary:

The described changes are insignificant and do not affect valve operability. The changes do not adversely affect the emergency diesel generator (EDG) loading, as the nonaccident loads are added to the EDG at the Operator's discretion under administrative controls to ensure the loading is within the EDG rating. The revised horsepower rating of the motors will not impact the capability of 2WCS*MOV104, *MOV105, and *MOV101 to perform their intended design function.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-056 Rev. 1
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.2, 3.3.6.2, and 3.3.9
System:	Control Rod Block, Primary Containment Isolation Instrumentation, and Service Water System Instrumentation
Title of Change:	Deletion of Trip Setpoints from Relocated Specifications

Description of Change:

This evaluation applies to the deletion of trip setpoints from the following Technical Requirements Manual (TRM) Specifications 3.3.2, Control Rod Block (DOC L.3); 3.3.6.2, Primary Containment Isolation Instrumentation (DOC L.3); and 3.3.9, Service Water System Instrumentation (DOC L.3).

The Current Technical Specifications contained both trip setpoints and allowable values for instrumentation. The TRM, where the relocated specifications now reside, correlates OPERABILITY to allowable values only, therefore allowing removal of the trip setpoints from the TRM. Trip setpoints are based on a combination of instrument design factors, environmental factors, and the allowable value. A trip within the allowable value demonstrates instrument OPERABILITY. A nonconservative trip setpoint found to trip within the allowable value is appropriately controlled by procedures and instrument OPERABILITY assessments. Therefore, references to the trip setpoint in the TLCO statement, and Conditions and Required Actions based on the trip setpoint, have been deleted.

Safety Evaluation Summary:

This evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment

Safety Evaluation No.: 00-056 Rev. 1 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-057

Implementation Document No.: DDC 2E12138

USAR Affected Pages: 4.4-11; Table 1.8-1 Sh 42

System: Loose Part Monitoring (LPMS)

Title of Change: Change Vibration and Loose-Part System Surveillance Interval to Support 24-Month Fuel Cycle

Description of Change:

The loose part monitoring system (LPMS) is an information system that is used to detect loose metallic parts within the reactor coolant system. The refuel surveillance interval for the LPMS is currently based on an 18-month fuel cycle. NMP2 is going to a 24-month fuel cycle with the implementation of the Improved Technical Specifications (ITS). The LPMS has been relocated to the Technical Requirements Manual and is not included in ITS, because the LPMS instruments do not meet the criteria of 10CFR50.36 for retention in the Technical Specifications, as they are not credited in the primary success path for any design basis accident or transient. Consequently, extension of the LPMS surveillance interval to accommodate a 24-month fuel cycle has not been reviewed by the NRC.

Safety Evaluation Summary:

As a result of LPMS instrument drift being insignificant, and there being minimal impact on system operability and reliability due to surveillance period extension, system functionality will be maintained with the extension of surveillance intervals to accommodate a 24-month fuel cycle.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-058
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.3.1
System:	Post-Accident Monitoring
Title of Change:	Addition of Six Hour Allowance for Performing Surveillance Requirements (TRM 3.3.3.1 DOC I.2)

Description of Change:

Technical Specifications Amendment 91 approved the relocation of certain specifications and information to the Technical Requirements Manual (TRM), a licensee-controlled document incorporated by reference into the USAR and subject to revision per 10CFR50.59.

This evaluation applies to the following change made to the relocated specifications:

For TRM 3.3.3.1, Non-Type A, Non-Category 1 Post-Accident Monitoring Instrumentation (specifically, the Suppression Chamber Air Temperature Instrumentation), change L.2:

A Note was added to the Surveillance Requirements to allow a channel to be inoperable for up to 6 hours, solely for performance of required Surveillance, without an entry into the associated action, provided the other channel in the associated Function is OPERABLE. This allowance was approved in the NRC Safety Evaluation for ITS for the Post-Accident Monitoring Instrumentation retained in the Technical Specifications. The NRC has also granted this allowance in other topical reports for the Reactor Protection System, Emergency Core Cooling System, and isolation equipment. The 6-hour testing allowance does not significantly reduce the probability of properly monitoring post-accident parameters, when necessary, since the other channel must be OPERABLE for this allowance to be used.

Safety Evaluation Summary:

This change does not introduce a new mode of plant operation and does not involve a physical modification to the plant. Furthermore, the affected function is not assumed in the primary success path for any analyzed accident or transient,

Safety Evaluation No.: 00-058 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

and was relocated from the Technical Specifications to the TRM in License Amendment 91.

This evaluation determined that this change will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-059

Implementation Document No.: LDCR 2-00-TRM-001

TRM Affected Sections: TRM Specifications (a part of the USAR by reference): 3.3.9

System: Service Water

Title of Change: One-Hour Completion Time for Actions (TRM 3.3.9 DOC L.2)

Description of Change:

The relocated Current Technical Specification (CTS) 3/4.3.9, Plant Systems Actuation Instrumentation, did not contain specific completion times and surveillance frequency for some of the Actions associated with inoperable Service Water System Instrumentation specifications. A Completion Time of one hour, and surveillance frequency of once per hour, have been provided for these Actions in the Technical Requirements Manual (TRM) specification. This Completion Time ensures appropriate action is taken without delay while providing sufficient time to perform the action in an orderly, controlled manner. The surveillance frequency helps to ensure that the parameter of interest is within the acceptable limits. The basis for selecting one hour is as follows:

The Allowed Out-of-Service Time (AOT) for more critical parameters retained in Improved Technical Specification (ITS) 3.7.1, Service Water System and Ultimate Heat Sink, is 1 hour and 72 hours. Conservatively, one hour is used for less critical parameters. The probability of an accident or a transient occurring during the one-hour completion time is extremely low, and the associated risk is acceptable. The changes are as follows:

The implied Action is made explicit -- monitor the differential pressure once per hour rather than monitor differential pressure:

- Action H.1, "Verify affected strainer differential pressure $\leq$10 psid," when one or more of the associated required channels is inoperable.

The specific Actions for which "no Completion Time" is defined in CTS and a "Completion Time of one hour is added" in the TRM are:

- Action C.1, "Provide an alternate flow discharge path by closing 2SWP*MOV30A or 2SWP*MOV30B," when the associated instrumentation is inoperable and discharge bay level is $\geq$275 ft.

Safety Evaluation No.: 00-059 (Cont'd.)

Description of Change: (Cont'd.)

- Action E.1, "Place intake heaters in service," and Action E.2, "Enter the Conditions and Required Actions of Technical Specification 3.7.1, Service Water System and Ultimate Heat Sink, or TRM Specification 3.7.1, Plant Service Water System - Shutdown, as appropriate," when the associated instrumentation is inoperable and lake temperature is <38°F.
- Action G.1, "Provide an alternate intake to the service water bay by opening 2SWP*MOV77A or 2SWP*MOV77B" when the associated instrumentation is inoperable and service water bay level is $\leq$ 234 ft.
- Action I.1, "Manually initiate backwash of the affected strainer," and Action I.2, "Declare the affected service water pump inoperable," when the associated instrumentation is inoperable and strainer differential pressure is >10 psid.
- Action J.1, "Close 2SWP*MOV95A or 2SWP*MOV95B," and Action J.2, "Declare Division 3 DG inoperable," when the Service Water Inlet Pressure for EDG*2 instrumentation is inoperable.

Safety Evaluation Summary:

A Completion Time of one hour, and surveillance frequency of once per hour, are provided for Actions associated with inoperable Service Water System Instrumentation. Previously, these times were undefined. These changes ensure the Actions are completed in a timely manner while providing for order and control. One hour is selected on the basis that the probability of an accident or a transient occurring while the instrument is inoperable is extremely low, and the most limiting AOT for the service water system and ultimate heat sink is one hour. The proposed changes do not introduce a new mode of plant operation, do not add new Operator actions, and do not involve a physical modification to the plant. This evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-060
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specification 3.3.2
System:	Control Rod Block Instrumentation
Title of Change:	Control Rod Block Time Delay Allowance for Performing Functional Tests and Calibrations when Entering a Lower Mode (TRM 3.3.2 DOC L.2)

Description of Change:

This evaluation applies to the following changes made to relocated Technical Requirements Manual (TRM) Specification 3.3.2, Control Rod Block Instrumentation:

Notes 1 and 2 are added to the surveillance TRSR 3.3.2.1 and 3.3.2.3 that do the following:

- For the Source Range Monitors (SRM), exempt performance of the CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION until 12 hours after entering the IRM range applicability from a higher range.

- For the Intermediate Range Monitors (IRM), exempt performance of the CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION until 12 hours after entering MODE 2 from MODE 1.

These surveillances cannot be performed prior to entering their applicability without utilizing jumpers, lifted leads, or moveable links. Use of these devices is not recommended since minor errors in their use may significantly increase the probability of a reactor transient or event, which is a precursor to a previously analyzed accident. Technical Specification Amendment 91 (see ITS BASES for SR 3.3.1.1.4, 3.3.1.1.10, and 3.3.3.1.13) granted similar exemption to APRM and IRM Reactor Protection System (RPS) functions. Therefore, consistent with the philosophy that ITS applies to the associated RPS APRM and IRM functions, time is allowed to conduct the Surveillance Requirements after entering the applicable MODE or other specified condition.

The SRM and IRM control rod block functions to prevent a control rod withdrawal error during refueling and reactor startup. No design basis accident or transient

Safety Evaluation No.: 00-060 (Cont'd.)

Description of Change: (Cont'd.)

analysis takes credit for rod block signals (NEDO-31466, USAR 15.4). Based on the NEDO-31466 evaluation, the SRM/IRM rod block function is a nonsignificant contributor to risk.

Safety Evaluation Summary:

This proposal revises specifications relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. The proposal adds Notes that delay performance of the CHANNEL FUNCTIONAL TEST and the CHANNEL CALIBRATION of the SRM and IRM control rod block functions. However, the surveillances must be performed within 12 hours after entering MODE 2 or, for the SRMs, the IRM range applicability. The control rod block function is not credited for in either accident or transient analysis.

The results of this evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-061
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.2, 3.3.5, 3.3.3.1, 3.3.6.2, 3.3.9, 3.4.6, 3.8.2.2, 3.8.2.3, 5.5.13
System:	Control Rod Block Instrumentation, ECCS Instrumentation, Non-Type A, Non-Category 1 Post-Accident Monitoring Instrumentation, Primary Containment Isolation Instrumentation, Service Water System Instrumentation, Pressure Isolation Valves, Primary Containment Penetration Conductor Overcurrent Protective Devices, Emergency Lighting System--Overcurrent Protective Devices, Snubbers
Title of Change:	18 to 24-Month Technical Requirements Manual Surveillance Frequency Extensions

Description of Change:

This evaluation applies to surveillance frequency extension, from 18 months to 24 months, in support of a change in the NMP2 refueling cycle from 18 months to 24 months. The changes affect the specifications relocated from the Technical Specifications to the Technical Requirements Manual (TRM) in License Amendment 91. The specific surveillance changes are:

TRM 3.3.2, Control Rod Block Instrumentation

Increase CHANNEL CALIBRATION interval from 18 to 24 months, for the Reactor Coolant System Recirculation Flow Upscale and Comparator functions.

TRM 3.3.5, ECCS Instrumentation

Increase LOGIC SYSTEM FUNCTIONAL TEST interval from 18 to 24 months, for the ADS Manual Inhibit function.

Safety Evaluation No.: 00-061 (Cont'd.)

Description of Change: (Cont'd.)

TRM 3.3.3.1, Non-Type A, Non-Category 1 Post-Accident Monitoring Instrumentation

Increase CHANNEL CALIBRATION interval from 18 to 24 months, for the Suppression Chamber Air Temperature monitoring function.

TRM 3.3.6.2, Primary Containment Isolation Instrumentation

Increase CHANNEL CALIBRATION and LOGIC SYSTEM FUNCTIONAL TEST interval from 18 to 24 months, for the RCIC turbine exhaust vacuum breaker line isolation function (Drywell Pressure - High and RCIC Steam Supply Pressure - Low).

TRM 3.3.9, Service Water System Instrumentation

Increase CHANNEL FUNCTIONAL TEST, CHANNEL CALIBRATION, and LOGIC SYSTEM FUNCTIONAL TEST interval from 18 to 24 months, for the actuation functions.

TRM 3.4.6, Pressure Isolation Valves

Increase CHANNEL CALIBRATION interval from 18 to 24 months, for the Reactor Coolant System Pressure Isolation Valves (Leakage Pressure Monitors and the High/Low-Pressure Interface Interlocks).

TRM 3.8.2.2, Primary Containment Penetration Conductor Overcurrent Protective Devices

Increase CHANNEL CALIBRATION and functional tests interval from 18 to 24 months, of the Primary Containment Penetration Conductor Overcurrent Protective Devices.

TRM 3.8.2.3, Emergency Lighting System - Overcurrent Protective Devices

Increase OPERABILITY demonstration interval from 18 to 24 months, for the Emergency Lighting System Overcurrent Protective Devices.

TRM 5.5.13, Augmented Snubber Inservice Inspection Program

Increase Visual Inspection and Functional Testing interval from 18 to 24 months, of the snubbers.

Safety Evaluation No.: 00-061 (Cont'd.)

Description of Change: (Cont'd.)

As a result of the above changes (i) the reliability (or availability) of the system to perform its intended function is not significantly reduced and (ii) the instrumentation drift allowance in the setpoint determination is adversely impacted. The 24-month surveillance interval may be as long as 30 months, which is consistent with Improved Technical Specification (ITS) SR 3.0.2. The evaluation is done assuming that the surveillance interval is as long as 30 months.

Safety Evaluation Summary:

This proposal revises specifications relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. Each proposed change extends a Surveillance Requirement Frequency from 18 months to 24 months in support of a change in the NMP2 refueling cycle from 18 months to 24 months. The proposed changes do not physically impact the plant nor do they impact any design or functional requirements of the associated systems. The proposed changes do not impact the Surveillance Requirements themselves, nor the way in which the Surveillances are performed. Furthermore, a historical review of surveillance test results indicated that all failures identified were unique, nonrepetitive, and not related to any time-based failure modes, and indicated no evidence of any failures that would invalidate the above conclusions. Evaluation of the changes meets the requirements established in Generic Letter 91-04 for the surveillance interval extension to 30 months (24 months + 25%). The new interval also meets the ASME Code requirement.

The results of this evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that the change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-062
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.9
System:	Service Water
Title of Change:	Monitoring Requirements for Inoperable Service Water Bay Instrumentation (TRM 3.3.9 DOC L.4)

Description of Change:

In Current Technical Specification (CTS) 3.3.9 (relocated to the Technical Requirements Manual (TRM) in the Improved Technical Specifications (ITS) License Amendment), the following requirements existed:

1. For inoperable Service Water Discharge Bay Level Instrumentation, the requirement was: "Monitor discharge bay level continuously if level reaches trip setpoint, provide an alternate flow discharge path by locking closed 2SWP*MOV30A or 2SWP*MOV30B."

2. For inoperable Service Water Bay Instrumentation, the requirement was: "Monitor service water bay level continuously if level reaches trip setpoint provides an alternate intake to the service bay by locking open 2SWP*MOV77A or 2SWP*MOV77B."

The sentence structure and lack of punctuation in each of these statements makes the true requirements unclear. Assuming the most conservative read of the statements, both require continuous monitoring immediately for inoperable instrumentation. The monitoring is proposed to be relaxed to once per hour since the rate of change of bay level is normally gradual and that INOP monitoring instrumentation is not an indication of bay water level outside of the design limit. From the most conservative read of the current requirements, this change is classified as less restrictive.

Safety Evaluation Summary:

This proposal revises a specification relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. The proposed change does not introduce a new mode of plant operation and does not involve a physical modification to the plant. Furthermore, the bay levels are monitored periodically

Safety Evaluation No.: 00-062 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

that assures the SWP system is operated properly. Failure of the alternate instrument alarm function in conjunction with the required functions will necessitate continuous monitoring. This will be administratively controlled by procedures. In addition, the alternate instrumentation and the alarm function will be periodically calibrated.

The results of this evaluation determined that this change will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-064
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.6.2
System:	Primary Containment Isolation Instrumentation
Title of Change:	RCIC Isolation Completion Times and Required Actions (TRM 3.3.6.2 DOC L.2)

Description of Change:

This evaluation applies to the following changes made to Technical Requirements Manual (TRM) Specification 3.3.6.2 (relocated from the Technical Specifications to the TRM per License Amendment 91), Primary Containment Isolation Instrumentation (DOC L.2); specifically, the Drywell Pressure - High coincident with RCIC Steam Supply Pressure - Low RCIC isolation signal. The following changes are proposed:

1. Increase the completion time, placing the INOP channels in tripped condition, from 1 hour to 24 hours when both Drywell Pressure - High channels or both RCIC Steam Supply Pressure - Low channels are INOPERABLE in only one trip system, provided the isolation capability of the flow path (the ability to automatically close either 2ICS*MOV148 or MOV164 on a valid signal) is maintained.

2. For both trip systems with less than minimum required channels OPERABLE (i.e., one or more channels INOPERABLE in each trip system), change the requirement for tripping the INOPERABLE channels within 1 hour when isolation capability is assured to 24 hours, provided the isolation capability of the flow path (the ability to automatically close either 2ICS*MOV148 or MOV164 on a valid signal) is maintained.

3. Relax the entry into the LCO ACTION for performance of required Surveillances. Presently, entry into ACTION is required when the other channel in the same trip system affected by the Surveillances is INOPERABLE. The proposed change requires entry into ACTION only when the isolation capability of the flow path is not maintained.

In summary, 1-hour allowance that existed in the Current Technical Specification is maintained as is when the automatic isolation capability of the penetration is lost. When the isolation capability of the flow path is maintained, INOPERABLE

Safety Evaluation No.: 00-064 (Cont'd.)

Description of Change: (Cont'd.)

channel(s) can be placed in tripped condition within 24 hours. These changes are consistent with the ACTIONS associated with ITS 3.3.6.1, Primary Containment Isolation Instrumentation.

The isolation logic for the subject penetration is arranged such that each trip system actuates one of the two isolation valves, 2ICS*MOV148 or 2ICS*MOV164. The closure of either valve accomplishes the function of isolating the line. There are two input parameters to the isolation logic, each arranged in a parallel one-out-of-two logic.

To appropriately address this as a specification, and to be consistent with the Improved Technical Specification (ITS) for primary containment instrumentation retained in the Technical Specification, the Condition is restated as "Isolation capability not maintained," with the logic description and what constitutes isolation capability discussed in the Bases. It follows that the Required Action is to restore isolation capability within 1 hour. Isolation capability is maintained or restored if at least one channel in each trip system is OPERABLE or in the trip condition, such that the isolation will occur on a valid signal.

Safety Evaluation Summary:

This proposal revises a specification relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. The proposed changes do not introduce a new mode of plant operation and do not involve a physical modification to the plant.

The results of this evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that the changes do not involve an unreviewed safety question.

Safety Evaluation No.: 00-065

Implementation Document No.: Technical Requirements Manual Rev. 0

TRM Affected Sections: TRM Specifications (a part of the USAR by reference): 3.3.2 and 3.3.9

System: Control Rod Block and Service Water

Title of Change: More Restrictive Changes (TRM 3.3.2 DOC M.1 and TRM 3.3.9 DOC M.1)

Description of Change:

In revising the specifications relocated to the Technical Requirements Manual (TRM) from the Technical Specifications (License Amendment 91), consistency with the Improved Technical Specification (ITS), resolution of current ambiguous requirements, incorporation of existing interpretations, or engineering and operating judgment may result in requirements being proposed for the TRM that are more restrictive than the relocated requirements. The specific, more restrictive requirements proposed for the NMP2 TRM are:

3.3.2 M.1 Currently, the Scram Discharge Volume Water Level - High, Float Switch has a note modifying its MODE 5 applicability that states: "With more than one control rod withdrawn. Not applicable to control rods removed per Specification 3.9.10.1 or 3.9.10.2." Current Technical Specifications (CTS) require the RPS Function of this instrumentation to be OPERABLE in MODE 5 with any control rod withdrawn and includes the same caveat regarding Specifications 3.9.10.1 and 3.9.10.2. ITS modifies this applicability in MODE 5 to be "With any control rod withdrawn from a core cell containing one or more fuel assemblies." It is proposed to apply this ITS MODE 5 applicability for the Scram Discharge Volume Water Level - High, Float Switch RPS Function to the control rod block Function in the TRM. The control rod block Function of this instrumentation is not credited in any analyzed event; it serves as an operator aid to stop rod movement and alert the operator prior to reaching the RPS setpoint. Therefore, it is appropriate for the RPS and control rod block Functions to have the same applicability.

3.3.9 M.1 Relocated Function 2.g, Service Water Inlet Pressure for EDG*2 (HPCS, Division III), Divisions 1 or 2 Supply Header pressure, is actually a time-delayed function. Although required for proper functioning of the instrumentation, the time delay was not previously specifically stated in the Specification. Proposed Function 6 is

Safety Evaluation No.: 00-065 (Cont'd.)

Description of Change: (Cont'd.)

renamed Service Water Inlet Pressure for Division 3 DG (for consistency with the ITS) and the timer portion of the instrumentation is specifically stated as proposed Function 7 with an Allowable Value range per Calculation Number CS-SWP*29-03C.

Safety Evaluation Summary:

This proposal revises specifications relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. The proposed changes do not introduce a new mode of plant operation and do not involve a physical modification to the plant. Furthermore, the affected functions are not assumed in the primary success path for any analyzed accident or transient.

The results of this evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the changes will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that the changes do not involve an unreviewed safety question.

Safety Evaluation No.:	00-067
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.3.1, 3.3.7.2, 3.3.7.4, 3.3.10, and 3.4.1
System:	RCS Chemistry, Seismic Monitoring Instrumentation, Loose-Part Detection, Meteorological Monitoring Instrumentation, and Non-Type A, Non-Category 1 Post-Accident Monitoring Instrumentation
Title of Change:	Elimination of Shutdown Requirements (TRM 3.4.1 DOC L.1), and Reporting to the Commission Requirements (3.3.7.2 DOC L.2, 3.3.7.4 DOC L.2, 3.3.10 DOC L.2, 3.3.3.1 DOC L.3)

Description of Change:

This evaluation applies to the deletion of shutdown requirements and requirements for reporting to the Commission from several specifications relocated to the Technical Requirements Manual (TRM) from the Technical Specifications per License Amendment 91.

I. Delete Shutdown Requirement
Former Current Technical Specification (CTS) 4.4.c stated: "The reactor coolant shall be determined to be within the specified chemistry limit by...continuously recording the conductivity of the reactor coolant, or, when the continuous recording conductivity monitor is inoperable, for up to 31 days, obtaining an in-line conductivity measurement [at a specified frequency]." The 31-day limit on the inoperable monitor is proposed to be deleted from the TRM. Currently, if the 31-day limit is exceeded, the Surveillance Requirement is not met; therefore, the TLCO is not met. The ultimate result of the TLCO not being met is a plant shutdown.

II. Replace Commission Reporting Requirement by DER Process when either a) a Seismic Monitoring instrument is inoperable for more than 30 days, or b) a Loose-Part Detection System channel is inoperable more than 30 days, or c) a Meteorological Monitoring Instrumentation channel is inoperable more than 7 days, or d) one channel of suppression chamber air temperature monitoring is inoperable for more than 30 days.

Safety Evaluation No.: 00-067 (Cont'd.)

Safety Evaluation Summary:

This proposal revises specifications relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. The proposed changes are the elimination of a shutdown requirement and the elimination of requirements for reporting to the Commission from several specifications. Appropriate chemistry procedures will be revised to provide adequate guidance to ensure that the indication/alarm recording function is returned to service to maintain compliance with Regulatory Guide 1.56. The corrective action program, DER, will be used to address the information previously required to be contained in the reports that are deleted. The cause of the inoperability and the plans and schedule for returning the component to service will be discussed in the DER.

When any system, equipment, instrument or monitor covered by this safety evaluation is out of service, it is a nonconforming condition (NRC Inspection Manual, Part 9900, Technical Guidance, and Generic Letter 91-18, Rev. 1) because continued plant operation with the system, equipment, or instrumentation out of service is contrary to the USAR. Therefore, such nonconforming conditions should be restored back to their previous condition in a timely manner, as required by Appendix B Criterion XVI.

The results of this evaluation determined that these changes will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-069
Implementation Document No.:	LDCR 2-00-TRM-014
TRM Affected Sections:	3.3.1.2; 3.9.3; 3.9.4
System:	Reactor Protection (RPS), Refueling Operations Communications, Refueling Platform (FNR)
Title of Change:	Revise Surveillance Requirements for RPS Shorting Links, Refueling Operations Communications and Refuel Bridge Fuel Grapple Position Interlock in the Technical Requirements Manual

Description of Change:

Under Technical Specifications (TS) Amendment 91, some TS functions in the Current Technical Specifications (CTS) were relocated to the Technical Requirements Manual (TRM). Four of the TS functions which were relocated to the TRM were relocated with no changes noted in the TS submittal for Improved Technical Specifications (ITS). The TRM changes now being evaluated under 10CFR50.59 involve the RPS shorting links, Refueling Operations Communications, and the Refuel Platform Fuel Grapple Position Interlocks.

The time at which the initial surveillance is performed is at a different interval than the periodic surveillance interval for the RPS shorting links and the Refueling Operations Communications. The initial surveillance interval time is deleted for these two functions. This is consistent with the ITS format.

The Refuel Platform Fuel Grapple Position Interlocks are located in two different sections with conflicting surveillance requirements. The surveillance requirements located in the section with other refuel platform interlocks are used and the conflicting requirements eliminated. Also, post-maintenance testing requirements for the refuel platform fuel grapple position interlocks are eliminated because these requirements are addressed generically. These changes are consistent with the ITS format.

Safety Evaluation Summary:

Each proposed change either 1) removes an unnecessary additional performance of a Surveillance that has been performed within its normally required Frequency, 2) removes redundant post-maintenance surveillance requirements that are already

Safety Evaluation No.: 00-069 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

dictated by the TRM 3.0 specifications, or 3) resolves inconsistent surveillance frequency requirements within the relocated specifications for the same function. The surveillances, performed at their normal periodic interval, are maintained in the TRM. As a result, adequate assurance is maintained that the equipment is operable. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-070
Implementation Document No.:	Technical Requirements Manual Rev. 0
TRM Affected Sections:	TRM Specifications (a part of the USAR by reference): 3.3.2
System:	Control Rod Block Instrumentation
Title of Change:	IRM Rod Block 12-hr Completion Time (TRM 3.3.2 DOC L.4)

Description of Change:

This evaluation applies to the following change made to relocated Technical Requirements Manual (TRM) Specification 3.3.2, Control Rod Block Instrumentation (DOC L.4):

For the rod block function, the relocated specification requires that for more than one required IRM inoperable, at least one inoperable channel be placed in the tripped condition within 1 hour. For the similar condition, Technical Specifications (both pre- and post-Amendment 91) allow 12 hours to place the channel in the tripped condition for the RPS function, provided RPS trip function is maintained. Therefore, the rod block function completion time is increased from 1 to 12 hours consistent with ITS Action A of LCO 3.3.1.1, RPS Instrumentation. The rod block function of the IRMs serves only as an operator aid to provide early indication of, and an automatic termination of, conditions that may lead to a RPS actuation. The IRM rod block function is not credited in any accident or transient analysis. For this reason, there is no safety significance in providing the similar 12-hour allowance given to the RPS function. Therefore, the 12-hour allowance is provided in the TRM to eliminate a condition in the TRM that is overly restrictive.

Safety Evaluation Summary:

This proposal revises a specification relocated from the Technical Specifications to the TRM per Technical Specifications Amendment 91. The proposed change does not introduce a new mode of plant operation and does not involve a physical modification to the plant. Furthermore, the affected function is not assumed in any analyzed accident or transient and was relocated from the Technical Specifications to the TRM in License Amendment 91.

The results of this evaluation determined that this change will not impact any event-assumed initial conditions, event initiators, or event mitigators, nor are any new modes of plant operation or physical modifications involved. Thus, the change will not a) increase the probability of occurrence or consequences of an

Safety Evaluation No.: 00-070 (Cont'd.)

Safety Evaluation Summary: (Cont'd.)

accident previously evaluated in the USAR, b) increase the probability of occurrence or consequences of a malfunction of equipment important to safety previously evaluated in the USAR, c) create the possibility of an accident or malfunction of equipment important to safety of a different type than previously evaluated in the USAR, or d) reduce the margin of safety as defined in the basis for any Technical Specification. Based on these considerations, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-072

Implementation Document No.: Simple Design Change PC2-165-00

USAR Affected Pages: 9A.3-7; Table 9A.3-11 Sh 1; Figure 10.4-7h

System: Service Water Chemical Treatment (SCT)

Title of Change: Replacement of Damaged Sodium Hypochlorite Storage Tank, 2SCT-TK2

Description of Change:

This simple design change replaced tank 2SCT-TK2, which stores 12.5% solution of sodium hypochlorite used in the SCT system. This replacement was necessary due to the failure of the tank coating that lines the inside of the previous tank, which was irreparable. The new tank is a fiberglass reinforced plastic and is contructed using resins with a proven history of satisfactory service in the storage of sodium hypochlorite.

Safety Evaluation Summary:

The SCT system treats the service water on a periodic basis to minimize biofouling of heat exchangers and microbiologically-influenced corrosion in the service water piping.

The tank and associated piping are part of the water treatment system for Service Water. The treatment system interfaces solely with the Service Water System and the changes being made to the treatment system will not change or impact the operation or performance of the Service Water system. The Service Water system acts to mitigate an accident, and is not considered an accident initiator or precursor as evaluated within the USAR. Therefore, this change will not increase the probability of occurrence of an accident that has previously been evaluated in the USAR.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.:	00-073
Implementation Document No.:	Calculation GTS-12
USAR Affected Pages:	Tables 9A.3-1 Sh 8, 9A.3-4 Sh 15, 18
System:	Control Building HVAC (HVC), Reactor Building Ventilation (HVR)
Title of Change:	Update and Revision of USAR Tables 9A.3-1 and 9A.3-4 To Reflect Charcoal Used in HVC/HVR Filters

Description of Change:

Tables 9A.3-1 and 9A.3-4 are tabular listings of Fire Hazards Analysis for the Reactor Building (Fire Zone 272 SW) and Control Building (Fire Zones 360 NZ and 378 NZ). The tables list the fire zones, combustible materials present, the total energy content in those combustible materials, and the total energy content in each fire zone within the building.

One of the combustible materials present in both the Reactor Building and the Control Building is charcoal, which is used as a filter media in the HVC/HVR filters. The quantity of charcoal assumed in the Fire Hazards Analysis was based on the design minimum number of pounds mass required to meet radiological performance objectives. The value for fire zones 272 SW, 360 NZ and 378 NZ did not reflect the actual mass used in Calculation GTS-12. Utilizing the actual mass, the charcoal mass for Zone 272 SW increases from 560 lbm to 580 lbm; Zone 360 NZ increases from 1980 lbm to 2180 lbm; and Zone 378 NZ increases from 1980 lbm to 2180 lbm. These changes reconcile the Fire Hazards Analysis with the actual installed mass of charcoal.

Safety Evaluation Summary:

This safety evaluation addresses changes to USAR Tables 9A.3-1 and 9A.3-4. This USAR change reconciles these tables to reflect the mass of charcoal currently installed in the HVC/HVR filters. These changes do not affect any analytical conclusions of the Fire Hazards Analysis, nor do they impact assumptions made in any fire protection system design bases or USAR accidents or transients. Additionally, there is no impact to the basis of any Current Technical Specification and Improved Technical Specification. Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-080

Implementation Document No.: Procedures N2-OP-29, N2-OP-31

USAR Affected Pages: N/A

System: Reactor Recirculation (RCS), Residual Heat Removal (RHS)

Title of Change: Parallel Operation of Reactor Recirculation and Shutdown Cooling Pumps

Description of Change:

Procedures N2-OP-29 and N2-OP-31 prohibit the operation of shutdown cooling on the same loop as an operating RCS pump. Precautions and limitations for these procedures state that the shutdown cooling mode is not to be run simultaneously with a RCS pump in the same loop, as damage to the recirculation pump could occur.

For noble metals chemical application (NMCA) and for future operational flexibility, Procedures N2-OP-29 and N2-OP-31 have been revised to allow operation of shutdown cooling on the same loop as an operating RCS pump. Both RCS pumps must remain in service for NMCA, and shutdown cooling may be required to be placed in service to maintain the required temperature, as a contingency, if steaming mode must be abandoned. Operational practice is to operate one RCS pump and one loop of shutdown cooling operating while in cold shutdown.

Safety Evaluation Summary:

Procedure N2-OP-29 contains a precaution not to run the RHR pump in shutdown cooling mode on the same loop as an operating RCS pump. Procedure N2-OP-31 contains a precaution not to run the RHR pump in shutdown cooling mode on the same loop as an operating RCS pump, as damage to the RCS pump could result. An evaluation was performed addressing the operation of the RHR pump in shutdown cooling mode simultaneously with the RCS pump for NMCA. The evaluation showed no negative impact from simultaneous operation of the two systems.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-081

Implementation Document No.: DDC 2M11797

USAR Affected Pages: Figure 9.4-2e

System: Auxiliary Service Building HVAC (HVL)

Title of Change: Delete Balancing Damper 2HVL-DMPV8 from Design Documents

Description of Change:

Balancing damper 2HVL-DMPV8 has been removed from the Auxiliary Service Building HVAC System design documents and USAR Figure 9.4-2e

DDC 2M10890B was previously issued to modify the existing HVAC system to accommodate the layout of the new rooms and modify airflow as required. DDC 2M10890B required that existing balancing damper 2HVL-DMPV8 be reused. When the contractor developed shop drawings for the area, they failed to recognize that this damper was to be reinstalled. Drawings were subsequently approved by NMPC and installation was completed, and the airflow balance was performed successfully without balancing damper 2HVL-DMPV8.

Safety Evaluation Summary:

This safety evaluation evaluates deleting balancing damper 2HVL-DMPV8 from USAR Figure 9.4-2e. It was verified that the system will perform its intended design function without this damper. This safety evaluation has determined that this activity will not cause any system or component to operate outside its design parameters.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-082

Implementation Document No.: Temporary Mod. 2000-029

USAR Affected Pages: N/A

System: Containment Purge (CPS)

Title of Change: Allow Primary Containment De-Inertion with Leaky CIVs and Allow Drywell Ventilation Without the Actuator on 2CPS*AOV104

Description of Change:

This temporary modification de-inerted the primary containment while in mode 3 with leaky containment isolation valves.

While in mode 3, the drywell ventilation process will commence with the air actuator of the outboard isolation valve removed and the valve is opened using a locked open manual handle.

Safety Evaluation Summary:

During each of the processes described above, an Operator in continuous communication with the Control Room will be stationed at the upstream manual valve, ready to close it and lock it closed in case of an isolation signal.

This safety evaluation has determined that this activity will not cause any system or component to operate outside its safety parameters.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-083

Implementation Document No.: DDC 2M11800

USAR Affected Pages: Figure 10.1-5b

System: Condensate (CNM)

Title of Change: Replace Piping of the 2CNM-P2C Seal Flush Return Line with a Flex Hose

Description of Change:

This change replaced the 3/4" pipe, the ½" pipe and the nipple located on the 2CNM-P2C seal flush return line with a flex hose and fittings.

Safety Evaluation Summary:

This safety evaluation reviewed the adequacy of this change with respect to its effect on the reliability of the affected condensate booster pump as well as its impact on the downstream feedwater pumps.

This safety evaluation has determined that this activity will not cause any system or component to operate outside its safety parameters. It also reviewed whether this change could cause or increase the probability of an accident or a malfunction of equipment important to safety, whether radiological consequences could be increased, and whether a margin of safety could be reduced by the proposed change.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.

Safety Evaluation No.: 00-086

Implementation Document No.: Procedure NTP-TQS-101

USAR Affected Pages: 13.2-6

System: N/A

Title of Change: NTP-TQS-101, Licensed Operator Candidate Training, Rev. 7

Description of Change:

This safety evaluation evaluated the following changes to Procedure NTP-TQS-101:

- Incorporated new/revised guidance contained in ACAD 00-003, Guidelines for Initial Training and Qualification of Licensed Operators, which superseded ACAD 91-012, Guidelines for Initial Training and Qualification of Licensed Operators.
- Replaced topical lists within the body of the procedure with attachments which identify the required training by lesson plan identification number and title.
- Changed "should" to "shall" in all action statements required to meet regulatory requirements.
- Revised the responsibilities of the Plant Manager to be consistent with those described in the Unit 1 UFSAR.
- Added a reference to Unit 2 USAR Section 8.3, which identifies training requirements for diesel generators.
- References to support procedures were added.
- Incorporated flowcharts to be used to determine and document eligibility (developed from ACAD 00-003, ANSI N18.1-1971 and ANSI/ANS 3.1-1978).
- Incorporated specific criteria to determine "significant" and "diverse" reactivity changes to meet the requirements of 10CFR55.31.
- Added action statements to ensure all position-specific training required to meet OSHA, Environmental, and Emergency Plan requirements is complete before assuming duties at the plant.
- Added action statements to ensure all certification documentation required by NIP-TQS-01 is complete.

Safety Evaluation No.: 00-086 (Cont'd.)

Safety Evaluation Summary:

The Niagara Mohawk Nine Mile Point Licensed Operator Candidate Training Program, described in Procedure NTP-TQS-101, has been developed using a Systems Approach to Training, as stated in 10CFR55, INPO ACAD 00-003, and is accredited by the National Nuclear Accrediting Board. Based on this accreditation, the change satisfies 10CFR55 requirements for Licensed Operator Candidate Training.

Based on the analysis performed, the changes to Procedure NTP-TQS-101 do not involve an unreviewed safety question.

Safety Evaluation No.:	00-091
Implementation Document No.:	Design Change N2-89-076
USAR Affected Pages:	Figure 11.3-1a
System:	Hydrogen Water Chemistry (HWC), Offgas (OFG)
Title of Change:	Relocation of the Offgas System Isolation Inputs to the Hydrogen Water Chemistry System

Description of Change:

The HWC design specification requires that a signal to the HWC programmable logic controller be provided to shut down the HWC system in case of the plant OFG system or recombiner train isolation signal. The current HWC system design utilizes the flow signal input from the offgas low flow switches 2OFG-FSL3A and 2OFG-FSL3B for offgas status indication (i.e., whether offgas is in operation or is isolated). The current setpoint for these flow switches for low offgas flow alarm is 6 scfm. The control logic is such that when both trains of OFG system flow are less than 6 scfm simultaneously, the HWC system input is considered as an OFG system isolation and, therefore, shuts down the HWC system (i.e., both the hydrogen and oxygen injection will be terminated simultaneously). Isolation of the OFG system will bring in the low flow alarms in both trains; thus, this is a positive input that will trip the HWC system in the event of an OFG system isolation. However, low flow conditions may exist in both trains without an OFG isolation resulting in unnecessary trips of the HWC system due to offgas flow perturbations.

This design change relocated the offgas isolation inputs to the HWC system from offgas low flow switches 2OFG-FSL3A and 2OFG-FSL3B to the OFG system auto shutdown valve control circuit. The inputs for plant OFG system isolation or recombiner train isolation are low preheater outlet temperature, high recombiner outlet temperature, and high offgas condenser outlet temperature. These signals represent the true indication of the OFG system isolation. The control logic is such that when the selected offgas train is isolated by any one of the aforementioned conditions, the HWC system will be terminated. As such, this change eliminated the spurious trip of the HWC system due to OFG system flow perturbation. The control logic is designed to accommodate single offgas/recombiner train operation. This supports maintenance on either train. In addition, the design incorporates the use of normally energized relays such that a loss of control power to the offgas panel will initiate a HWC system shutdown.

Safety Evaluation No.: 00-091 (Cont'd.)

Safety Evaluation Summary:

This modification maintains the original design for a HWC automatic trip and immediate isolation of the oxygen injection to the OFG system during recombiner failure. HWC injection will not be automatically tripped under the conditions of "Manual or automatic vacuum pump shutdown" or "Pretreatment high radiation level". This supports the system design to continue injection or shutdown with a delay in isolating oxygen to allow full recombination of combustible gases. The continued injection avoids a hydrogen excursion reducing the potential for a detonable mixture in the OFG system. This modification will not increase the potential for failure of the OFG system pressure boundary and will not increase the potential for loss of the OFG system causing loss of condenser vacuum.

The circuit design maintains adequate isolation which will prevent the signals from the HWC system side from having any adverse impact back to the OFG system.

Based on the evaluation performed, it is concluded that this change does not involve an unreviewed safety question.