U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INSPECTION AND ENFORCEMENT Division of Quality Assurance, Vendor, and Technical Training Center Programs

Report No.: 50-410/85-28

Docket No.: 50-410

Licensee: Niagara Mohawk Power Corporation

Facility Name: Nine Mile Point, Unit 2

Inspection At: Stone & Webster Engineering Corporation, Cherry Hill, NJ

Inspection Dates: August 12-16, 1985

Inspection Team:

Team Leader:

Mechanical Systems:

Mechanical Components:

Electrical Power:

Controls Discipline:

Civil/Structural:

E. Imbro, Senior Inspection Specialist, IE

- T. DelGaizo, Consultant, WESTEC Services S. Klein, Consultant, WESTEC Services
- C. Bomberger, Consultant, WESTEC Services
- J. Blackman, Consultant, WESTEC Services
  - G. Morris, Consultant, WESTEC Services
  - J. Kaucher, Consultant, WESTEC Services G. Lewis, Inspection Specialist, IE

A. Unsal, Consultant, HARSTEAD Engineering

E. V. Amkro 9/10

Eugene V. Imbro Team Leader

James L. Milhoan, Section Chief Quality Assurance Branch

Approved:

85092001



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## NINE MILE POINT, UNIT 2 Engineering Assurance Technical Audit No. 50 Results and Corrective Actions Inspection August 12 through August 16, 1985

## 1. Background

In a letter dated April 3, 1985, Niagara Mohawk Power Corporation (NMPC) forwarded to the NRC a program plan for completion of the Engineering Assurance In-Depth Technical Audits of the Nine Mile Point 2 (NMP-2) Project. This plan was subsequently revised as EA In-Depth Technical Audit Revision 1 dated April 18, 1985 as a result of discussions with the NRC IE and Region I staffs. This program was approved with conditions as stated in NRC letter Subject: Nine Mile Point Unit 2 Engineering Assurance Program [EAP] dated May 2, 1985. On April 22-23, 1985, the NRC inspected the preparations and review plans of the SWEC audit team as documented in Inspection Report 50-410/85-14 dated May 10, 1985. SWEC program implementation was inspected by the NRC on May 21-25, 1985 and documented in Inspection Report 50-410/85-18 dated June 17, 1985.

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## 2. Purpose

The purpose of this inspection was to review audit results and corrective actions. Specifically, the following activities were conducted on a sampling basis: (1) review of back-up documentation to verify that it supports the results and conclusions of Audit Report No. 50, (2) review resolution of the Action Items identified in the report and the corrective actions for acceptability, (3) review of corrective actions either completed or in-process to determine if they had been implemented as stated in the report, (4) verification of whether the audit had accommodated NRC comments in Nine Mile Point 2 preparation inspection report 50-410/85-14 dated May 10, 1985 and program implementation inspection report 50-410/85-18 dated June 17, 1985 and (5) verification of whether the audit gave adequate consideration to design related items from Construction Appraisal Team Inspection 50-410/83-18 dated January 31, 1984.

## 3. NRC Inspection Team

This inspection was conducted by NRC personnel, with support of contractor personnel as follows\*:

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ASSIGNMENT	Name, FUSTCIUM
Team Leader Mechanical Systems	E. Imbro, Senior Inspection Specialist, IE T. DelGaizo, Consultant, WESTEC Services S. Klein, Consultant, WESTEC Services
Mechanical Components Electrical Power Controls	C. Bomberger, Consultant, WESTEC Services J. Blackman, Consultant, WESTEC Services G. Morris, Consultant, WESTEC Services J. Kaucher, Consultant, WESTEC Services G. Lewis, Inspection Specialist, IE
Civil/Structural	A. Unsal, Consultant, HARSTEAD Engineering

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\*Attended part time:

S. Ebneter, Director, Division of Reactor Safety, Region I

Attended the exit briefing:

J. Milhoan, Chief, Licensing Section, IE

P. Eapen, Chief, Quality Assurance Section, Region I

## 4. Personnel Contacted

A large number of NMPC and Stone & Webster Engineering Corporation (SWEC) personnel were contacted throughout the five day inspection. The following is a listing of key personnel contacted:

Name	<u>Organization</u>	Position
W. Kennedy	SWEC	Senior VP, Manager CHOC
W. Eifert	SWEC	Chief Engineer, EA
R. Twigg	SWEC	Audit Team Leader
C. Terry	NMPC	Licensing Manager
M. Roy	NMPC	Manager Special Projects
R. Fortier	SWEC	Power Discipline Auditor
H. Mooncai	SWEC	Electrical Auditor
W. Pananos	SWEC	Structural Auditor
G. Arena	SWEC	EMD Auditor
G. Bushnell	SWEC	Hazards Auditor

## 5. General Conclusions

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As a result of this inspection, a large number of Action Items identified in Audit Report No. 50 were considered to be closed-out by the NRC staff with no further action required. Actions Items from this inspection which the NRC staff considers to be open items are identified in Attachment 1 to this report. Attachment 1 provides a discussion of the action required to close the specific items. In several instances, this action involves the inclusion of additional back-up documentation by the audit team. In some cases, additional technical work is being performed on the part of either the audit team or NMP-2 project personnel.

As a result of NRC staff comments, the SWEC audit team agreed to publish a supplement to the report of Audit No. 50 which would provide additional technical information. The NRC staff understands that the supplement to the report of Audit No. 50 will address: (a) the safety-significance of any plant hardware changes, (b) dialogue between the audit team and the project where necessary to further describe the significance of specific items, (c) Action Items closed-out by the audit team since publication of the original report, and (d) NRC open items as indicated in the attachment to this report.

Attachments 2 and 3 contain a status of inspection items from prior NRC inspections of the NMP-2 engineering assurance program referenced in Paragraph 2 above. Attachment 4 to this report provides a discussion of the incorporation of design related items from the NRC's Construction Appraisal Team Inspection 50-410/83-18 dated January 31, 1984.

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Attachments:

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- NMP-2 Technical Audit No. 50: NRC Open Items 1.
- 2.
- Status of Prior NRC Inspection Items NRC Preparations Inspection Report 50-410/85-14 Status of Prior NRC Inspection Items NRC Implementation Inspection Report 50-410/85-18 3.
- Incorporation of Design Items from the NMP-2 CAT Inspection 4.



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## ATTACHMENT 1

## NMP-2 Technical Audit No. 50 NRC Open Items

The following is a listing of NRC open items as of the completion of the NRC's inspection on August 16, 1985. These items are presented in accordance with the individual disciplines identified in Audit Report No. 50. Within each discipline area, open items associated with a specific SWEC Action Item are discussed. Following the listing of Action Items, other general items are discussed, where applicable.

It is noted that as a result of this inspection, the EA team is doing additional technical reviews and is reviewing documentation supporting the original reviews particularly in the electrical and power disciplines.

CONTROLS DISCIPLINE (Report Section 6.1)

Action Item No. E-C15-0

Set Point Calculations - Assumptions for Test Equipment Accuracy

Setpoint calculations assume an accuracy for test equipment for which field confirmation is required. SWEC Memo of 7/3/85 (Hogenmiller to Traber) requires that procedures be established to ensure that the accuracy for test instruments are equal to or better than those stated on the calculations. This item remains open pending verification that satisfactory procedures are in place to ensure instrument accuracy satisfies the assumptions of the calculations.

GENERAL ITEMS

## Description

# Comment

Nonconformance and Disposition Reports (N&Ds) N&Ds selected for review addressed simple problems. Additional N&Ds of a more complex nature should be selected for review or justification should be provided that N&Ds selected for review in the Controls area are representative of all N&Ds in this area.





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ELECTRICAL DISCIPLINE (Report Section 6.2)

Action Item No. E-E11-0

Preventative Maintenance for Qualified Life Status

The project's response to this item stated that maintenance and surveillance plans would be prepared which would address qualified life status of the equipment. This item will remain open until a sampling of the maintenance and surveillance plans is performed to demonstrate a satisfactory response to the SWEC EA team concern.

Action Item No. E-E20-0

QA Category Identification - Battery Changes Drawings

This item concerned incorrect QA category identification on drawings. A 100% review was performed by the project of wiring and one-line diagrams which resulted in discovery of an additional 56 errors. A sample of 20 physical drawings was also reviewed, representing less than 2% of the physical drawings (only one of which was a Category I drawing). Additional Category I safety-related drawings are being reviewed by the EA audit team.

Action Item No. E-E16-0

Inconsistency - FSAR and One-Line Diagram - MOV Horsepower Rating

This item resulted in changes to a one-line diagram 12177-EE-1CP-2 and FSAR Table 8.3-4. The E&DCR prepared by the project only addressed the specific motor-operated valve identified in the action item and failed to address the remaining MOVs on the same diagram which also did not agree with FSAR Table 8.3-4. Before this item is closed out, all inconsistencies should be corrected and further review should be undertaken to determine if this is a generic problem or justification for not doing so should be provided.

## GENERAL ITEMS

Description

# Comment

Review of Pump-Motor Combinations In Audit #50, the SWEC EA team reviewed a 10 hp pump-motor. The EA team is expanding its review to include a large pumpmotor combination where the team could audit such things as driven equipment brake horsepower requirements and minimum voltage acceleration. This review will also confirm power discipline interface relative to the capability of the HVAC systems to maintain proper environmental conditions for the pump motor.



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Description

## Comment

Control Circuit Voltage Drop

Physical Separation

Calculation Review

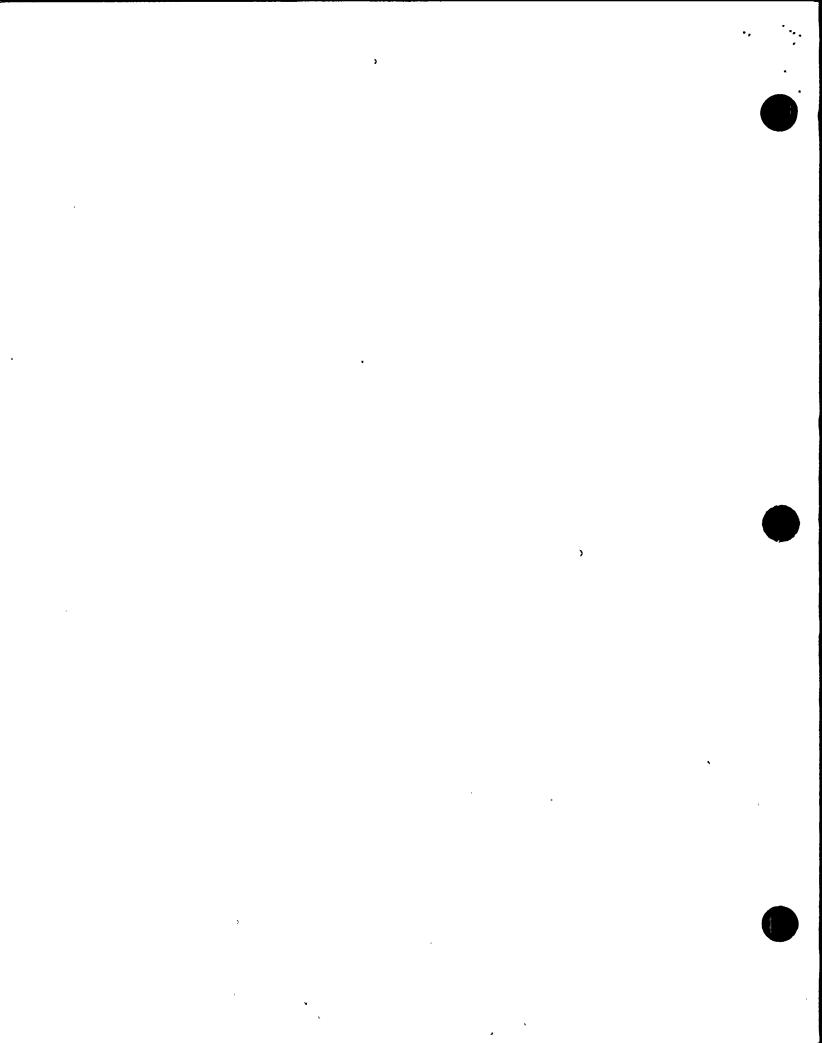
Battery Specs. Audit Report #50 indicates that dc control circuit voltage drop was reviewed, however, the backup documentation does not support this statement. The NMP-2 project is currently conducting a Cable Length Verification Program to confirm the acceptability of control circuit voltage drop. This item will be held open until it is confirmed that ESF pump switchgear dc control circuit voltage drops have been found acceptable.

The audit review plans implied that the extent of the separation review was limited to confirming that cables were routed in the correct division trays. No evidence was found in the backup documentation that the EA review investigated physical separation or raceway barrier design and its effects on cable ampacity. If the review was performed, the results of the review should be reflected in the backup documentation. If the review was not performed justification for not doing so should be provided.

In the two calculations reviewed by the NRC team, the following deficiencies were noted. EC-42 (Battery Sizing): (1) battery open circuit voltage of 123.8 v was assumed in determining the current requirements for the inverters rather than the 114.8 v determined later in the calculation, (2) different motor horsepower was assumed for the 3 MOVs in two related calculations, (3) lack of design margin (Per IEEE 485) in currents used to establish battery discharge voltage profile, and (4) differences in battery one minute cell discharge rates. EC-100 (DC Cable Sizing): (1) no reference for the 101 v minimum MOV voltage, (2) no margin on current for the cable voltage drop from battery to switchgear, (3) apparent inconsistencies in current drawn by various loads, (4) no apparent justification for the assumption limiting operation of valve ICS\*MOV 122 to a window at 118.5 minutes into the battery discharge, and (5) followup action not identified where cables were identified with excessive voltage drop. In view of these problems, the SWEC EA team should further evaluate the validity and effectiveness of these calculations including any design process implications.

The review of battery material did not consider battery cell jar material or intercell spacer material. The SWEC EA team will conduct a review of these materials. Also, the audit checklist did not document a performance or acceptance test per IEEE 450 for either constant current discharge or a load profile discharge. This item should be verified by the SWEC EA team or justification for not doing so should be provided.





MECHANICAL COMPONENTS (Report Section 6.3)

Action Item No. E-M04-0 E-M05-0 Dynamic Qualification - Valve 21CS\*MOV126 Identification of Applicable Dynamic Loads -Valve Spec. P304R

The SWEC audit team did not verify that the seismic qualification documentation submitted by a valve vendor was complete, properly approved by the SWEC project and hence in conformance with ASME code requirements. This item will remain open until such a verification is completed. Further, since the GE Phase 3 MOV Qualification Program affects the entire line of BOP Limitorque motor operators, the item will also remain open until it is verified that the GE program is completed, envelops the affected NMP operators, and that the documentation is in order.

Action Item Nos. E-MO8-0	Stress Analysis Thermal Load Cases
E-M10-0	Decoupled Branch Line Stress Evaluation
E-M11-0	Approval of Soc-o-let Relocation by Pipe Stress Group
E-M12-0	Evaluation of Small Bore Equipment Nozzle Loads
E-M17-0	Transmittal of Pipe Stress Analysis Results for High Energy Line Break Analysis
E-M23-0	Design Change Tolerances for BSW Shield Doors - Review and Approval.

A number of Action Items have been dispositioned by virtue of the existence of a calculation closeout procedure (PP-93) which is designed to verify all pertinent input information, with calculational reevaluation as required. This item will remain open until it is confirmed through a representative sampling of calculations that these items have, in fact, been properly addressed.

## GENERAL ITEMS

## <u>Description</u>

Comment

Selection of Pipe Support Review An examination of the BZ drawing for the ICS system indicates that the majority of pipe support designs are significantly more complex than those chosen for review by the audit team. Therefore, the technical attributes may not have been adequately evaluated. The SWEC EA audit team is reviewing additional pipe support designs to form a more representative sample.

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## POWER DISCIPLINE (Report Section 6.4)

Action Item Nos. E-P07-1 E-P10-0	Relief Valve 2ICS*RV112 Sizing Problem Report PR-P-149 - Project Compliance with Power Division Standards
E-P16-0	Flow Orifice Thickness Verification - Spec. CO11N
E-P27-0	Discrepancies in Calculation for RCIC Test Line to Condensate Storage Line Size Verification
E-P29-0	Inconsistency - Calculation for RCIC System Design Pressure/Temperature/Pipe Size Selection and Power Division Standard
E-P31-0	Drain Pot Level Control
E-P37-0	Single Failure Effect on Suppression Pool Water Level

Further technical details are needed for these items relative to safety-significance and design process effectiveness. Specifically, where hardware changes are involved, the adequacy of the design prior to the change (from a safety viewpoint) should be discussed. In general, the project's response to these items should be provided along with the audit team's evaluation of the response. Finally, the audit team's overall conclusions relative to design adequacy and design process effectiveness should be reiterated in view of these specific items.

## Action Item No. E-P21-0 Pump ICS\*P2 Recirc. Loop Heat Dissipation

The SWEC EA audit team did not confirm that a procedure or suitable program is in effect to verify that appropriate post-startup testing is performed to determine whether or not the heat generated by the keep-fill pump can be adequately dissipated. This should be done or justification should be provided for not doing so.

Action Item No. E-P38-0 Localized Steaming from Open Equipment Drains

The SWEC EA team did not verify that a procedure or suitable program is in effect to monitor possible contamination from open drain funnels following plant startup. This item will remain open until this verification is performed or justification is provided for not doing so.



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## GENERAL ITEMS

Description

Adequacy of

Temperature

Calculation

Adequacy of RCIC

Test Line Size

Verification

Calculation

HYAC Zone

## Comment

HELB

The safe-shutdown portion of the NMP-2 high-energy-line-break program remains an open item since this portion of the program has not been implemented by the project and therefore was not a subject for review during this technical audit.

A review of backup calculations for Review Plan 1903-0 indicated that maximum HVAC zone temperatures calculated for the reactor building were based on average cooling water (service water) temperatures supplied to unit coolers. Since this calculation (EHV-50) was used to substantiate environmental parameters for equipment environmental qualification, maximum service water temperatures should be used to determine maximum zone temperatures. This will reduce apparent design temperature margins in some zones but is not expected to exceed the design temperatures established in this calculation. Nevertheless, unless justification is provided for not doing so the EA team should evaluate the effect of using the maximum temperatures and should also determine the extent of the problem from a generic standpoint (i.e., should ensure that environmental qualification temperature levels have been adequately established).

A review of the calculation A10.1 H-8 Rev. 3 to verify RCIC test line sizing revealed an error in the way flow resistance coefficient (K-factor) derived from valve vendor specified CV was used in the calculation. The K-factor was derived for 3 inch nominal pipe size and used with 4 inch piping to determine flow resistance. This error will result in a change in the size of flow orifice 2 ICS RO 125. The sizing of flow orifice 2 ICS RO 125 was based on an assumed steam inlet pressure to the RCIC pump's turbine driver of 165 psi producing a pump TDH of 610 feet. However, the RCIC pump is generally tested with the plant normally operating at a steam pressure of 1000 psi. At this steam pressure, the RCIC produces a total dynamic head (TDH) of 3000 feet. The calculation did not evaluate the potential for pump runout and possible deleterious effects to the pump when being tested in the normal operating mode. Also, the potential for cavitation through the orifice should be evaluated at this operating condition due to the high pressure drop across the orifice and the reduced pressure in the vena contracta due to the high flow velocity.

The stress analysis performed to determine the orifice thickness did not consider the pressure drop this orifice would see during the condition when the RCIC pump was flow tested at normal reactor pressures. From the above it is clear the project did not recognize the existence of multiple operating points for the RCIC pump during the test mode. This item will remain open until these concerns and any generic implications are addressed.

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## CIVIL/STRUCTURAL DISCIPLINE (Report Section 6.5)

Action Item No. E-S03-0

Control Building and Diesel Generator Building Stability Analysis

The project's technical justification to demonstrate that the mat will not slide at the contact with the rock surface was not checked by the SWEC EA audit team. The EA team should evaluate the project's technical justification or justification should be provided for not doing so.

Action Item No. E-S04-0/1

ICS Cubicle Watertight Door Design - Conflicting QA Categories

The NMP-2 project is in the process of reviewing SWEC specifications P306C and S203C to determine the effects of radiation on seals. The action item will remain open until this review has been completed by the project and evaluated by the EA team.

Action Item No. E-S09-0

Design Requirements for Special Doors -Spec. S208G

The project is in the process of performing calculations and obtaining certified mill test data. This will remain an open item until this work is completed and has been evaluated by the EA team.

Action Item No. E-S23-0 Cable Tray Base Plate Anchor Bolt Holes

The EA audit team did not verify that an analysis was performed to demonstrate that prying forces are not a significant contributor to the overall tension in the drilled-in anchor bolts. This item will remain open until this verification is performed or justification is provided for not doing so.

> EQUIPMENT QUALIFICATION (Report Section 6.6)

ACTION ITEMS

There are no items which the NRC staff considers to be open in the equipment qualification area.



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## ATTACHMENT 2

## Status of Prior NRC Inspection Items

## NRC PREPARATIONS INSPECTION REPORT 50-410/85-14 of May 10, 1985

## SPECIFIC COMMENTS BY DISCIPLINE

\* The comments below relate to the corresponding comments in Inspection Report 50-410/85-14

Item No.	Status	Comments*
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I - Mechanical System/Power Engineering

Closed

Review plans were revised in this discipline and were subsequently reviewed by the NRC and were found to be satisfactory. Also HELBA and Seismic II/I review plans were determined to be sufficient.

## II - Engineering Mechanics/Mechanical Components

Closed

Review plans in this discipline were either modified or where additional documentation was required, these comments were reflected in the report of the implementation inspection (Inspection Report No. 85-18). Hence, this item is considered closed and the details of the items from the implementation inspection are Attachment 3.

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III - Electric Power

Closed

During the preparations inspection it was determined that the following areas were not evaluated during the SWEC (NY) review of the AC System. Subsequently, these items have been included in the SWEC Engineering Assurance audit:

- Electrical protection of motors and motor operated valves
- DC motor operated valve voltage drop
- 120 volt ac & dc control circuit voltage drop
- Containment Electrical Penetration protection
- Motor starting voltage when loading the diesel generator
- Instrumentation and control power supply

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Item No.	Status
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Comments\*

Electric Power (continued) Closed

These items were either incorporated in the audit or where additional action was required, comments were provided in the report of the implementation inspection (Inspection Report No. 85-18). Hence, these items are considered closed and details of the items from the implementation inspection are provided in Attachment 3.

IV - Controls/Instrumentation and Controls Specific Comments

Closed

Instrumentation and control audit preparations for the inspection were subsequently reevaluated during the inspection of program implementation. These preparations were considered to be satisfactory, subject to the comments provided in the implementation report which are discussed in Attachment 3.

V - Civil/Structural Specific Comments

Closed

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Review plans in this discipline were modified and are considered to be satisfactory.

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# ATTACHMENT 3 STATUS OF PRIOR NRC INSPECTION ITEMS NRC IMPLEMENTATION INSPECTION REPORT 50-410/85-13 of June 17, 1985 Specific Comments by Discipline

'The comments below relate to the corresponding items in Inspection Report 50-410/85-18

Subject	<u>Status</u>	Comments*
Mechanical Systems		
Control of Design Changes	Closed	Evidence was available to indicate that the audit was evaluating the project's technical justification for design changes.
Review of ACNs, ECNs, & ERDCRs	Closed	Additional change notices were reviewed which were of a substantive nature.
RCIC Steam Line Dose Rate Calculation	Closed	Evidence was available to indicate that the validity and appropriateness of computer codes was being considered by the auditors.
HELB/MELB/Flooding	Closed	Review plans of the HELB/MELB area are now auditable.
Inadequate Substantiation of Review	Closed	Substantiation of acceptable attributes in the review plans has been provided.
Verification of Assumptions	. Closed	There was evidence that the audit was investiga- ting instances where calculational assumptions or input needed further verification.
Incorrectly Stated Audit Action Item	Closed	The action item was revised to correctly identify the deficiency.
Mechanical Components		
Pipe Support Stiffners Verification not apparent	Closed	Sufficient evidence exists of a review of pipe support stiffness including identification of a representative sample of pipe support calculations to be audited.
Verification of Assumption	0pen - 1 -	As discussed in Attachment 1 to this report, several action items remain open pending verification of calculational input information as per procedure PP-93.
	Mechanical Systems Control of Design Changes Review of ACNs, ECNs, & ERDCRs RCIC Steam Line Dose Rate Calculation HELB/MELB/Flooding Inadequate Substantiation of Review Verification of Assumptions Incorrectly Stated Audit Action Item Mechanical Components Pipe Support Stiffners Verification not apparent	Mechanical SystemsControl of Design ChangesClosedReview of ACNs, ECNs, & ERDCRsClosedRCIC Steam Line Dose Rate CalculationClosedHELB/MELB/FloodingClosedInadequate Substantiation of ReviewClosedVerification of AssumptionsClosedIncorrectly Stated Audit Action ItemClosedMechanical Components Pipe Support StiffnersClosed

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Item No.	Subject	Status	Comments	•
2.3	Field Design Changes	C1osed	During the implementation audit there appeared to be inadequate plans to review the technical adequacy of the field design change system at the site. Review of Audit Report #50 confirmed that adequate plans were established by the EA Audit Team.	
2.4	Calculation Update Requirements	Open	As discussed in item 2.2 above, this item remains open pending further verification of calculation validity.	
2.5	Adequacy of Audit Review Documentation	Closed	Audit documentation was thoroughly reviewed subsequent to publication of the report. Subject to the comments on this report, backup documentation was sufficient.	
<u>3</u>	<u>Civil/Structural</u>			
3.1	Limited Depth of Technical Audit	Closed	The review was expanded to include all major categories of structures at NMP-2.	
3.2	Seismic Analysis	Closed	The audit team verified input and output of selected computer programs in order to verify seismic analyses.	
3.3	Stiffness of Conduit Support	Closed	An action item was subsequently prepared on this item (E-S26-0).	
3.4	Plate Flexibility	Closed	An action items was subsequently prepared on this item (E-S27-0).	
<u>4</u>	Electric Power			
4.1	Review of Design Process	Closed	There was evidence in the documentation that this item was being checked.	
4.2	Potential Action Items	Closed	Action items were subsequently prepared on these items.	
4.3	EA Review Requirement on E&DCRs	Closed	An action item was subsequently prepared on this item.	

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Item No.	Subject	<u>Status</u>	Comments
4.4	FSAR Commitments for Safety Related Overload Heater Selection	Closed	An action item was subsequently prepared on this item.
4.5	Use of Manufacturer's Data in Diesel Load Profile Calculation	Closed	An action item was subsequently prepared on this item.
<u>5</u>	Instrumentation & Controls		
5.1	Auditable Review Plans	Closed	The Audit Report #50 coupled with the review plans and the action items comprise a complete and auditable package.
5.2	Calculation Assumptions	Open	This item remains open pending the review of the implementing procedure to ensure that test equipment used for calibration meets or exceeds the accuracy specified in the calculation.
5.3	I&C Calculations	Closed	Two additional setpoint calculations were added to the list to be reviewed.
5.4	Advanced Change Notices (ACNs)	Closed	Three ACNs were reviewed as part of Audit Report #50. #50.
5.5	Separation & Isolation Requirements	Closed	Separation within the remote shutdown panel was reviewed. Additionally, instrument tubing separation was evaluated.
5.6	E&DCRs	Closed	An adequate number of E&DCRs were reviewed (5). One complete problem report has been reviewed and 3 partially complete problem reports were evaluated.
5.7	Problem Reports	Closed	One complete problem report has been reviewed and 3 partially complete problem reports were evaluated.



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## Attachment 4 NMP-2 Cat Inspection Items

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In reviewing the report of SWEC Technical Audit No. 50, the NRC team considered the design related items from the report of the NRC's Construction Appraisal Team to ensure that these items had been sufficiently investigated by the EA audit team. The NRC team concluded that these items had been sufficiently reflected in Audit No. 50 or had been sufficiently addressed in a previous SWEC Engineering Assurance technical audit. Details of this aspect of the NRC's review are provided below:

Design Related CAT Item	Comment
Design Change Control	Questions of timing of incorporation of changes as well as the review process to determine the adequacy of changes was addressed in SWEC Audit #19 of the Site Engineering Group.
Consistency Between the FSAR and Design Documents	This matter was one of the major features of SWEC Audit #50 and was adequately addressed.
Seismic Qualification of Class 1E Equipment	This item was reviewed by the electrical discipline with support of the componnets discipline during SWEC Audit #50.
Prequalification Testing. Anchor Bolts	This was addressed in Section 6.5 of SWEC Audit #50.
Preparation of E&DCRs in lieu of N&Ds	These problems were checked in all disciplines by SWEC Audit #50.
Acceptance Criteria of Electrical Installation Specification	This was verified by the electrical discipline during SWEC Audit #50.
Flocthical Consustion	Senanation within the remote chutdown

Electrical Separation Separation within the remote shutdown Criteria Deficiencies panel was evaluated in SWEC Audit #50 with no generic problems noted.

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