



NIAGARA MOHAWK POWER CORPORATION



STONE & WEBSTER ENGINEERING CORPORATION

## SWEC PROJECT PROCEDURE

### NINE MILE POINT - UNIT 2

<b>TITLE:</b> REVIEW OF CHANGES AND THEIR EFFECT ON ENVIRONMENTAL/ MECHANICAL/SEISMIC/HYDRO- DYNAMIC QUALIFICATION OF EQUIPMENT	<b>NUMBER:</b> SWEC PP 94	<b>REVISION:</b> 3	
	<b>SUPERSEDES:</b> PP 94, Rev. 2		<b>VOL IV</b>
<b>REFERENCE:</b> PP 16, PP 24, PP 25, PP 44, PP 53, PP 76, PP 77	<b>DATE OF ISSUE:</b> 03/13/86	<b>PAGE 1 OF 13</b>	
<b>APPROVAL:</b> SWEC <u><i>C. Zyzal</i></u> <u>3/10/86</u> <div style="text-align: right;">DATE</div>			

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#### I. PURPOSE

This Procedure establishes the responsibilities and method for reviewing changes that potentially affect the qualification of equipment which requires qualification under the environmental, mechanical, and/or seismic/hydrodynamic qualification programs.

#### II. SCOPE

A. This Procedure is applicable to all changes which affect environmental, mechanical and/or seismic/hydrodynamic qualification of equipment (as covered by specifications in Attachment E) which fall within the following areas:

1. Equipment modifications.
2. Changes to environmental parameters.
3. Changes in the seismic and dynamic loads.
4. Changes in the location of equipment.

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5. Changes in design details which affect the structure, material, and mounting configuration or orientation of the equipment.
6. Changes made to the equipment interfaces (i.e., connections).
7. Changes in process design conditions (i.e., thermal transients, pressure, temperature).
8. Changes involving safety-related nonmetallic material.
9. Changes in Post Accident Operability Period (PAOP) data.

### III. RELATIONSHIP TO OTHER PROCEDURES

The requirements of this Procedure supplement those contained in PP 16, PP 24, PP 25, PP 44, PP 53, PP 76, and PP 77 concerning the review and approval of changes to issued SWEC documents.

### IV. RESPONSIBILITIES

- A. The Lead Discipline Engineers (or designee) at CHOC and the Site Engineering Group (SEG) responsible for initiating a change within the scope of this procedure (i.e., E&DCR/ACN/N&D, Specification Revision/Addenda) will ensure that Attachment A is completed in accordance with Section V, and included as part of the E&DCR/ACN/N&D. For Specification Revision/Addenda, Attachment A shall be filed in the specification job book with the Specification Review Form. The lead/senior engineers shall ensure that the completed attachment, in accordance with Section V.A., is technically correct, consistent with licensing requirements, and included as part of the E&DCR/ACN/N&D.

NOTE: This does not apply to E&DCRs/ACNs/N&Ds which act as cover pages for GE-NSSS FDIs, ECNs, or FDDR.

- B. It is the responsibility of the lead seismic and/or environmental equipment qualification engineer, as applicable, to provide the Equipment Qualification Action Item (EQAI) (Attachment B) forms or concurrence as applicable; and, when requested, provide assistance in completing Attachment A and provide technical justifications for NO IMPACT statements.
- C. The Assistant to the Project Engineer-Equipment Qualification (ATPE-EQ) will monitor the review of changes which affect the qualification of equipment and ensure that all open and action items identified on the EQAI are logged, filed, and properly dispositioned.

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The ATPE-EQ is responsible for initiating an EQAI to cover changes to the EQEDC, PAOP, PES803, and dynamic loads (RRS).

In addition, the ATPE-EQ shall ensure that the equipment master lists are revised in accordance with Attachments B and/or C of this procedure.

It is also the responsibility of the ATPE-EQ to establish a sequentially numbered log identifying and tracking the EQAI. The ATPE-EQ shall ensure that the EQAI is complete and properly signed in accordance with this procedure, and distribute the EQAI as indicated on the form.

V. PROCEDURE

A. PROCEDURE FOR EQUIPMENT QUALIFICATION REVIEW OF EQUIPMENT CHANGE DOCUMENTS

All E&DCRs, ACNs, N&Ds (excluding those with GE-FDDRs attached), and Specification Revision/Addenda which address equipment covered by the scope of this procedure (Section II) shall be reviewed (prior to Project Engineer signature) to evaluate the impact on seismic, mechanical, and environmental equipment qualification. This review shall be conducted by following the instructions on Attachment A and documented by including the completed Attachment A as part of the change document. All E&DCRs, ACNs, and N&Ds for equipment within the scope of this procedure must have Attachment A included as part of the E&DCR/ACN/N&D. For Specification Revision/Addenda, Attachment A shall be included with the specification review form.

B. PROCEDURE FOR REVIEW OF OTHER DOCUMENTS

All changes to the EQEDC, PAOP sheets, PES803, and dynamic loads (RRS) shall be reviewed to evaluate the impact on qualification of equipment by the applicable lead EQ engineer using the EQAI form initiated by the ATPE-EQ.

Seismic/environmental equipment qualification engineers may be contacted when their assistance is needed in completing this attachment or justifying the impact of the change on equipment qualification.

C. DOCUMENTATION OF REVIEW AND REQUIRED FOLLOWUP ACTION

The Equipment Qualification Action Item (EQAI) Form, Attachment B, shall be used by the LEQE/LSQE to document the action required to resolve/reconcile the changes identified as having impact to the Equipment Qualification Program.

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The EQAI shall be consecutively numbered by the originator based on a block of numbers assigned to each discipline by the ATPE-EQ. The EQAI shall be forwarded to the ATPE-EQ immediately upon sign-off of the change document.

Each EQAI shall be forwarded to the ATPE-EQ for logging, entry into the Exception Restraint Report (ERL) as applicable, and tracking through closure. The ATPE-EQ shall also maintain a sequential file of forms. Completed forms will be issued to Document Control for filing in a unique job book.

VI. DISTRIBUTION OF E&DCRs, N&Ds, AND ACNs

- A. Copies of all E&DCRs, ACNs, and open N&Ds (i.e., not closed via QA signoff in "N&D Reviewed and Closed" block of the N&D form) which have the "Environmental and/or Seismic Qualification" block checked "Yes" and/or have the note "Impacts Equipment Qualification" shall be distributed to the ATPE-EQ by Document Control.
- B. All specification review forms which have an Attachment A checklist attached shall be distributed to the ATPE-EQ by Document Control.
- C. Attachment A is filed (but not distributed) with the original subject change document or specification review form by Document Control.

Attachment A  
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**SAMPLE**

REVIEWER CHECKLIST TO DETERMINE EFFECT OF CHANGES ON CATEGORY I  
ELECTRICAL AND MECHANICAL EQUIPMENT QUALIFICATION

Attachment A

Change Document  
(i.e., E&DCR/ACN/N&D, Spec revision/addenda, PAOP revision, etc)  
Specification/Drawing No. \_\_\_\_\_

Section I - Category of Changes: If the subject(s) of all changes in the change document are totally restricted to one or more of the following categories below, check the block and proceed to Section III of this form. If the block is not checked proceed to Section II of this form.

☐

1. Raceway installation
2. Cable termination, wiring changes exclusive of methods/materials of termination; cable pull
3. Replacement with identical equipment/component at the same location and installed to the original requirements
4. Documentation not related to equipment qualification
5. Restoration of equipment to its original condition/configuration/identical equipment
6. Revision/rerouting/addition/deletion of pipe/tubing/cable/conduit/duct which does not include QA Category I equipment in-line or at the terminations
7. Revisions/additions/deletions/reconfiguration of supports which are only supporting pipe/tube/duct/conduit
8. Change document has a GE-NSSS FDDR attached
9. Replacement of damaged equipment nameplates or revisions/replacement of internal wiring identification markings

Section II: Evaluate any changes not covered by Section I by use of the questions below:

1. Does this change affect the location of equipment covered by a specification listed in Attachment E of PP 94? yes/no
2. Does this change add or delete QA Category I equipment, or add or delete equipment covered by the specifications listed in Attachment E of PP 94? yes/no
3. Does this change revise/change/replace, in total or part, equipment procured by specifications listed in Attachment E of PP 94? yes/no
4. Does this change affect the method/material of electrical termination? yes/no
5. Does this change specify a new or revised cable route? yes/no
6. Does this change affect electrical device moisture intrusion seals, e.g., Conax, Rosemont, C. Bisco, etc, of equipment procured by the specification in Attachment E? yes/no
7. Does this change affect the mounting configuration of equipment procured by the specifications in Attachment E of PP 94? yes/no
8. Does this change locate, relocate, modify, replace, delete, or affect the mounting of equipment supplied by GE-NSSS? yes/no

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9. Does this change revise/affect specified design parameters related to equipment qualification (e.g., Environmental, Fluid, Seismic/Hydrodynamic Loads)? yes/no

Proceed to Section III of this form.

Section III

1. Review Not Required: If the block in Section I is checked or if all questions in Section II are answered "No", an Equipment Qualification review is not required.

Sign off the change document, and for E&DCRs and ACNs, check the "No" blocks for Seismic and Environmental Qualification; for M&Ds, enter "No impact on Environmental, Seismic, Mechanical Qualification" in the Remarks Block.

Sign and date (Section IV) and secure this checklist to the subject change document or to the specification review form for specification revision/addendum, as applicable.

2. Evaluation of Impact: If any one of the questions in Section II is answered "Yes," the LSQE and LEQE shall review the change document for evaluation of impact.

No Impact: The LSQE/LEQE provides a justification statement with his signature (see Section IV), and proceeds with Section III.1.

Impact: If the LSQE and/or LEQE conclude the change document impacts the qualification of equipment, the LSQE and/or LEQE, as applicable, shall check the "Yes" block for Seismic and/or Environmental Qualification on E&DCRs and ACNs; for M&Ds, enter "Impacts Equipment Qualification" in Block No. 47, approve the change document by initialing the document, initiate an Equipment Qualification Action Item (EQAI) form, record the EQAI form number on this attachment, and complete Section IV of this attachment. Consecutively number the EQAI form and forward with a copy of the change document to the ATPE-EQ.

Section IV - Signatures

- Preparer \_\_\_\_\_ Date \_\_\_\_\_
- No Impact: For use when Section II has a "Yes" but review by LSQE and LEQE determines no impact.

LSQE/LEQE \_\_\_\_\_/\_\_\_\_\_ Date \_\_\_\_\_/\_\_\_\_\_  
Justification for no impact: \_\_\_\_\_

- Impact: For change documents which impact equipment qualification.

LSQE/LEQE \_\_\_\_\_/\_\_\_\_\_ Date \_\_\_\_\_/\_\_\_\_\_  
EQAI Number/Date \_\_\_\_\_

SECURE THIS DOCUMENT TO THE SUBJECT CHANGE DOCUMENT OR  
SPECIFICATION REVIEW FORM AND PROCEED WITH SIGNOFF.



ATTACHMENT B

EQUIPMENT QUALIFICATION ACTION ITEM FORM (EQAI) No. \_\_\_\_\_

1. Document \_\_\_\_\_ (i.e., ACN, N&D, E&DCR, spec. revision/  
addendum, environmental parameters, dynamic loads, PAOP)
2. Specification No. \_\_\_\_\_
3. Brief Description of Change
4. Affected Qualification Documents - Examples: Vndr. Qual. Rpts., Calcs,  
Master List, Maint. Data Shts., etc.  
If Master List is changed attach applicable Master List Change Form.
5. Description of Impact
6. Specific Action Required - Detailed List of Action Items
7. Disposition \_\_\_\_\_ LEQE/LSQE \_\_\_\_\_ Date \_\_\_\_\_  
ERL Entry Completed?  
Are action items completed and equipment qualified?

Responsible LDE \_\_\_\_\_ Date \_\_\_\_\_  
Responsible LEQE/LSQE \_\_\_\_\_ Date \_\_\_\_\_

☐ LEQE  
☐ Responsible Lead Engineer

☐ LSQE  
☐ ATPE-EQ  
☐ Job Book \_\_\_\_\_



ATTACHMENT C

ENVIRONMENTAL QUALIFICATION MASTER LIST CHANGE FORM

TO: ATPE-EQ

FM:

Mark No. \_\_\_\_\_ Specification No. \_\_\_\_\_

Change Description: BOP ☐ GE-NSSS ☐

Electrical ☐ Mechanical ☐

Changes to EQD Master Lists (Electrical and Mechanical) Rev. \_\_\_\_\_ Dated \_\_\_\_\_

	<u>From</u>	<u>To</u>	<u>Reference</u>
Mark No.	_____	_____	_____
Spec No.	_____	_____	_____
Env Zone	_____	_____	_____
Others (specify)	_____	_____	_____

NOTE: For definition of codes, see the EQD.

	<u>Signature</u>	<u>Date</u>
Engineer Initiating Change Form	_____	_____
ATPE Incorporating Change	_____	_____
EQD Master List Revision No.	_____	_____



ATTACHMENT D

SEISMIC QUALIFICATION MASTER LIST CHANGE FORM

TO: ATPE-EQ

FM:

Mark No. \_\_\_\_\_ Specification No. \_\_\_\_\_

Change Description: BOP ☐ GE-NSSS ☐

Seismic Category I Master Issue Date \_\_\_\_\_  
List

	<u>From</u>	<u>To</u>	<u>Reference</u>
Mark No.	_____	_____	_____
Spec No.	_____	_____	_____
Building	_____	_____	_____
Elevation	_____	_____	_____
Mounting	_____	_____	_____
Loads	_____	_____	_____
Qual. Method	_____	_____	_____
Natural Frequency	_____	_____	_____
RRS Reference	_____	_____	_____

	<u>Signature</u>	<u>Date</u>
Engineer Initiating Change Form	_____	_____
ATPE Incorporating Change	_____	_____
SCI Issue Date	_____	_____



ATTACHMENT E

EQUIPMENT QUALIFICATION SPECIFICATION LIST

<u>Specification No.</u>	<u>Environmental</u>	<u>Seismic</u>	<u>Mechanical</u>
C001C	X	X	
C021L	X	X	
<del>C032M</del>		X	
<del>C032N</del>		X	
<del>C032R</del>		X	
C041D	X	X	
C051A		X	
C051M	X	X	X
C061G	X	X	
C061P		X	
<del>C062G</del>		X	
<del>C062P</del>		X	
C071A	X	X	
C071L	X	X	
C071M	X	X	
C071V		X	
C071W	X	X	
<del>C072L</del>		X	
<del>C072U</del>		X	
<del>C072W</del>		X	
<del>C073U</del>		X	
C081A (Category I only)	X	X	
C151B			X
C151C		X	
E011T	X	X	
E014T	X	X	
E015F	X	X	
E015N	X	X	
E015Q	X	X	
E021P	X	X	
E023A	X		
E023B	X		
E023C	X		
E024A	X		
E024B	X		
E024P	X		
E024R	X		
E031A	X	X	
E033A	X	X	
E034A	X	X	
E035A	X	X	

<u>Specification No.</u>	<u>Environmental</u>	<u>Seismic</u>	<u>Mechanical</u>
E061A (Category I only)	X	X	
E092B	X	X	
E0904	X		
E0906	X		
H110B	X	X	
M070A (Category I only)	X	X	X
P121A	X	X	
P221X		X	X
P222X	X	X	X
P223E			X
P225E	X	X	
P243U	X	X	X
<del>P251H</del>		X	
P251P		X	
<del>P251R</del>		X	
<del>P251W</del>		X	
P281F	X	X	
P282K	X	X	
P283B			X
P283V			X
P301A			X
P301N			X
P301Q/W			X
P301V			X
P303D	X	X	X
P303R		X	X
P303V		X	
P303W	X	X	X
P303Y		X	X
P304A	X	X	X
P304D	X	X	X
P304E	X	X	X
P304H	X	X	X
P304J	X	X	X
P304K	X	X	X
P304L		X	X
P304R	X	X	X
P304S	X	X	X
P304V			X
P304X	X	X	X
P304Y	X	X	X
P305B		X	X
P305E		X	



<u>Specification No.</u>	<u>Environmental</u>	<u>Seismic</u>	<u>Mechanical</u>
P305L			X
P305M			X
P305W		X	
P306C			X
<del>P306V</del>		X	
P311A	X	X	
P412M/W	X	X	X
<del>P412V</del>		X	
P413E/V	X	X	
P413H	X	X	
P413L	X	X	X
P413R	X	X	
P413S	X	X	X
P413T	X	X	X
P413TQ	X	X	
P413U		X	
P800A (GE)	X	X	X
S203C			X
S208G			X
<del>S401E</del>		X	
S401K			X
U213A	X		

