




# System Operating Procedures

SOP-RTMKTS.0060.0015

Major New Equipment Commissioning Check  
List Procedure

Effective Date: May 11, 2011  
Revision No. 2


	© ISO New England Inc. 2011	<b>Procedure: Major New Equipment Commissioning Check List Procedure</b>
	Process Name: Maintain System Security	
	Procedure Number: RTMKTS.0060.0015	Revision Number: 2
	Procedure Owner: Peter Harris	Effective Date: May 11, 2011
	Approved By: Director, Operations Support Services	Valid Through: May 11, 2013

## SOP-RTMKTS 0060.0015 - Major New Equipment Commissioning Check List Procedure Contents


1. Objective .....	3
2. Background .....	3
3. Responsibilities.....	4
4. Controls .....	5
5. Instructions.....	6
5.1 Review and Selection of I.3.9 Applications for Validation .....	6
5.1.1 Quarterly Review by the Checklist Review Committee .....	6
5.2 Management of Checklist Documents .....	7
5.2.1 Creating Project Checklists .....	7
5.2.2 Monitoring Checklist Progress .....	7
5.3 Checklist Completion and Coordination between Departments.....	8
5.3.1 Department Responsibilities .....	8
5.3.2 Committee Responsibilities .....	8
5.3.3 Actions regarding incomplete Checklists.....	8
6. Performance Measures.....	9
7. References .....	9
8. Revision History .....	9
9. Attachments .....	9

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Attachment A - Major New Equipment Commissioning Check List ..... 10


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## 1. Objective

	<p>The objective of this procedure is to ensure the proper execution of the New Equipment Commissioning Checklist.</p> <p>Completion of the Checklist supports:</p> <ul style="list-style-type: none"> <li>The accurate and complete operational implementation of the selected network Project.</li> </ul>
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## 2. Background

	<p>ISO New England (ISO) is responsible for accurately maintaining a power system model for use in the EMS. This model includes topology, characteristics of the various power system facilities, and equipment ratings. Various application programs use the power system model, which include the state estimator, system security, restoration simulator, market software and loss calculator.</p> <p>Market Participants provide future Project information to ISO in accordance with the ISO Planning Procedures by submitting an initial or revised I.3.9 application for review and acceptance by ISO.</p> <p>The process of implementing Projects has historically had integration issues. In order for ISO to ensure the performance of its required reliability functions, the operational implementation process must be as complete and accurate as possible and any outstanding issues identified and resolved prior to the energization of the Project. To facilitate this objective, the Major New Equipment Commissioning Checklist will be utilized to monitor the operational implementation of the Project.</p>
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### 3. Responsibilities


	<ol style="list-style-type: none"> <li>1. Each department participating in the execution of the Checklist procedure will designate a representative and alternate to serve on the Checklist Review Committee.</li> <li>2. Each department participating in the execution of the Checklist procedure will designate a representative and alternate to sign each Checklist item for their department.</li> <li>3. The Checklist Review Committee is responsible for:             <ul style="list-style-type: none"> <li>• Reviewing and selecting I.3.9 applications for tracking via Checklists</li> <li>• Recording the progress of Checklists on the Master Project Tracking List</li> <li>• Determining, if a Project reaches the implementation date prior to completion of the checklist, the following:                 <ul style="list-style-type: none"> <li>○ If an action plan is necessary</li> <li>○ Committee member(s) responsible for preparing an action plan</li> </ul> </li> </ul> </li> <li>4. Power System Model Management is responsible for completing their Checklist items and coordinating the execution of any interdependent tasks with the appropriate departments.</li> <li>5. Operations Support Services is responsible for completing their Checklist items and coordinating the execution of any interdependent tasks with the appropriate departments.</li> <li>6. Operations Performance and Training Integration is responsible for completing their Checklist items and coordinating the execution of any interdependent tasks with the appropriate departments.</li> <li>7. The System Restoration Working Group (SRWG) member designated as a Checklist Review Committee representative is responsible for:             <ul style="list-style-type: none"> <li>• Completing their Checklist items</li> <li>• Coordinating the execution of any interdependent tasks with the BRICK Restoration Simulator and the LCC/TOs and their respective Restoration Plans</li> </ul> </li> </ol>
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|  | <ol style="list-style-type: none"> <li>8. System Operations Support is responsible for appointing a Checklist Process Facilitator to schedule the Checklist Review committee meetings and perform other responsibilities as assigned herein.</li> <li>9. Transmission Planning is responsible for assembling I.3.9 applications which have been approved by ISO New England.</li> <li>10. The Checklist Process Facilitator is responsible for:             <ul style="list-style-type: none"> <li>• Creating and monitoring the Project Checklists</li> <li>• Maintaining the Checklist Tracking Document</li> <li>• Maintaining the Checklist Review Committee Membership document</li> <li>• Performing the following, if an action plan is necessary:                 <ul style="list-style-type: none"> <li>○ Notifying committee member(s) responsible for preparing an action plan</li> <li>○ Receiving the completed action plan</li> <li>○ Delivering the completed action plan to the Manager, Control Room Operations,</li> </ul> </li> </ul> </li> </ol> |
|--|--|

#### 4. Controls


- |  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• The Checklist Review Committee will perform a quarterly review of ISO New England approved I.3.9 applications and record the I.3.9 applications to be tracked with the Checklist in the Master Project Tracking List.</li> <li>• The Checklist Review Committee will perform a periodic review of current Checklists and record the status in the Master Project Tracking List.</li> </ul> |
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## 5. Instructions


### 5.1 Review and Selection of I.3.9 Applications for Validation

<b>5.1.1 Quarterly Review by the Checklist Review Committee</b>	<ol style="list-style-type: none"> <li>1. The Checklist Review Committee will perform a quarterly review of ISO New England approved I.3.9 applications.</li> <li>2. The Checklist Review Committee will select I.3.9 applications to be tracked based on criteria agreed upon by the Committee (Project size, number of handoffs, number of parties affected, impact scope, etc.).</li> <li>3. The Checklist Review Committee may deem a project to be sufficiently large with enough cross-functional impact to warrant the need for project oversight. A project meeting such criteria will be forwarded to PMO for project management consideration.</li> <li>4. The Checklist Review Committee will update the Master Project Tracking List with identification of the Projects selected for Checklist tracking.</li> </ol>
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## 5.2 Management of Checklist Documents

<b>5.2.1 Creating Project Checklists</b>	<ol style="list-style-type: none"> <li>1. The Checklist Process Facilitator as assigned by the Committee will be responsible to schedule the meetings and gather information to be discussed during the meeting (typically I.3.9 information approved by ISO New England).</li> <li>2. Committee members are responsible to provide any additional project information they may have that was not discovered by the Checklist Process Facilitator.</li> <li>3. The Checklist Process Facilitator will create one copy of the Checklist master for each Project selected for tracking by the Committee.</li> <li>4. The Committee will identify timelines related to their area of responsibility which will then be used to identify the overall timeline for each project.</li> <li>5. The Checklist Process Facilitator will title the new Checklist with the appropriate identification for the respective Project and store it in the Major New Equipment Commissioning Checklist SharePoint folder.</li> <li>6. Each Committee member is responsible to report status of their responsibilities for each project during the meetings.</li> <li>7. The Checklist Process Facilitator will update the Checklist Tracking document with identification of the new and updated Checklists.</li> </ol>
<b>5.2.2 Monitoring Checklist Progress</b>	<ol style="list-style-type: none"> <li>1. The Checklist Process Facilitator will periodically review the progress of Checklists and engage the respective departments to assist in resolving any timing or timeliness issues.</li> </ol>

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### 5.3 Checklist Completion and Coordination between Departments

<p><b>5.3.1 Department Responsibilities</b></p>	<p style="text-align: center;"><b>NOTE</b></p> <p>When completing Attachment A - Major New Equipment Commissioning Check List, it is permissible for a department to enter NA (for not applicable) in the date fields for task items that are not applicable.</p>
	<ol style="list-style-type: none"> <li>1. Each department will be responsible for monitoring, tracking and completing their portion of the Checklist.</li> <li>2. Each department will identify the prerequisites and interdependent tasks and coordinate the expected dates with the involved departments. Expected dates will be highlighted in the Checklist.</li> </ol>
<p><b>5.3.2 Committee Responsibilities</b></p>	<ol style="list-style-type: none"> <li>1. The Checklist Review Committee will identify Projects for tracking via the Checklist.</li> <li>2. The Checklist Review Committee will perform a periodic review of current Checklists and record the status in the Master Project Tracking List.</li> <li>3. When all Checklist items have been completed, the Master Project Tracking List will be updated with the Project completion date by the Checklist Review Committee.</li> </ol>
<p><b>5.3.3 Actions regarding incomplete Checklists</b></p>	<p>The goal of this process is to ensure that every Checklist is completed prior to the implementation of the Project. Should a Project reach the implementation date prior to the completion of the Checklist, the following actions may be taken.</p> <ol style="list-style-type: none"> <li>1. The Checklist Process Facilitator shall provide any required action plan for the resolution of the incomplete items to the Manager, Control Room Operations.</li> <li>2. The Project in question may be referred to the Reliability and Operations Compliance group for action via email. The email referrals will be stored in the Major New Equipment Commissioning Checklist SharePoint repository with the relevant Checklist.</li> </ol>

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## 6. Performance Measures

This procedure is deemed to be properly followed as evidenced by the following:

- The timely and accurate completion of the Checklist for each selected Project
- The records of Checklist completion in the Checklist Tracking document.
- The records of Project completion in the Master Project Tracking document.
- The reduction in new Project operational issues from historical levels
- The absence of Compliance filings

## 7. References


- Checklist Review Committee Membership document (located in the Major New Equipment Commissioning Checklist SharePoint folder)

## 8. Revision History

<b>Rev. No.</b>	<b>Date</b>	<b>Reason</b>	<b>Contact</b>
0	05/17/09	Initial procedure	Peter Harris
1	08/03/09	Modified step 3.2., step 3.4., step 3.7., step 3.8., step 3.9., & step 5.3.3.1.	Peter Harris
2	05/11/11	Changed frequency of meetings and added Transmission Planning to the group. Added Document Change section (5) to Attachment A Changed pagination format	Michael Zeoli

## 9. Attachments

Attachment A - Major New Equipment Commissioning Check List


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### Attachment A - Major New Equipment Commissioning Check List

Equipment Name	_____		
Expected in service date	_____	Project Completion Date	_____

<b>Operations Support Services *</b>	Expected Date	Date Complete
1. I.3.9 Application Review		
2. Required Technical Data:		
a. System Modeling data		
b. Fault impedance data		
c. Clearing time data		
3. Required System Studies:		
a. Stability Studies		
b. Voltage Studies		
c. Thermal Studies		
d. Interface Definition changes		
4. Operator Aids:		
a. Operator Guides/EMS Tools		
b. EMS Tools Development		
c. Training Tools		
5. Document changes:		
a. ISO Operating Procedure(s)		
b. System Operating Procedure(s)		
c. M/LCC Procedure(s)		

<b>Power System Modeling and Support *</b>	Expected Date	Date Complete
1. SCADA points identified as required in OP18.		
a. Alarm Text (TOG) needed yes/no		
2. The necessary SCADA points are verified:		
a. MW flow and polarity		
b. MVAR flow and polarity		
c. Voltage		
d. Breaker state indication		
3. One line diagrams developed		
a. Ready for release into production system		
b. Control Room Wallboard Updated		
4. Contingency Development:		
a. Definition validated		
b. Special Group needed yes/no		
5. Special Protection Scheme:		
a. Definition validated		
6. Applications: <span style="float: right;">Special</span>		
a. Double C		
b. Voltage Reactive Calculators		
c. Interface Limit Calculation		

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d. PI	
<b>Product Testing</b>	<b>SIR/SPR Number(s)</b>
1. Business Owner	
a. Business Owner Product Testing (Reference detailed product testing in Change Management Processes and Procedures)	

<b>Operations Performance and Training Integration*</b>	<b>Expected Date</b>	<b>Date Complete</b>
1. Evaluation against reliability-related tasks		
2. Classroom:		
a. System changes		
b. Transmission Operating Guide(s) Change(s)/New		
c. Special Protection Scheme(s) Change(s)/New		
d. System Operating Procedure(s) Change(s)/New		
e. M/LCC Procedure Change(s)/New		
f. ISO Operating Procedure Change(s)		
3. Simulator/TTSE:		
a. TTSE staged with new R/T Network Release		
b. TTSE Study clones updated		
c. Wallboard updated		
d. Normal Operation		
e. Contingency response		
f. Use of software tools:		
i. Modifications to existing tools		
ii. Use of new tools		

<b>Restoration *</b>	<b>Expected Date</b>	<b>Date Complete</b>
1. Brick:		
a. Brick updated System changes		
b. Black Start/Restoration Studies**		

\* For task items that are not applicable, enter NA in the date fields.

\*\* A sign off on the Black Start/Restoration Studies is not needed prior to energization. Updates to Black Start/Restoration Plans occur under separate processes.

**Periodic Scope Review:**

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_