	© <i>ISO New England Inc. 2024</i>	<i>Procedure: Determine Study Requirements</i>
	<i>Process Name: Perform Complex Studies</i>	<i>Revision Number: 12.1</i>
	<i>Procedure Number: OUTSCH.0050.0010</i>	<i>Effective Date: October 17, 2024</i>
	<i>Procedure Owner: Dean LaForest</i>	<i>Valid Through: October 17, 2026</i>
	<i>Approved By: Director, OSS</i>	


SOP-OUTSCH.0050.0010

Determine Study Requirements

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1. Objective

The objective of this procedure is to evaluate the need to perform a special complex study of the New England power system. This procedure documents the responsibilities of ISO New England (ISO) staff.

Compliance with this procedure is necessary to ensure the reliable operation of the New England power system in accordance with ISO New England Operating Procedure No. 3 - Transmission Outage Scheduling (OP-3), ISO New England Operating Procedure No. 5 - Resource Maintenance and Outage Scheduling (OP-5), and ISO New England Operating Procedure No. 19 - Transmission Operations (OP-19). This procedure does **not** in any way change the intent of OP-3, OP-5, or OP-19 but rather is intended to clarify some of the responsibilities delegated to ISO staff by those procedures. This procedure also supports the cost-effective operation of the power system. This procedure can affect Market operation and settlements.

2. Background

Many things including system demand, Resource / Dispatchable Asset Related Demand (DARD) / Alternative Technology Regulation Resource (ATRR) outages, transmission outages, generation and load patterns, new facilities, and unusual operating configurations affect the reliability of the power system. These same issues can also affect the cost-effective operation of the power system.


Transmission Operating Guides (TOGs), Remedial Action Schemes (RAS) or Automatic Control Schemes (ACS) equipment and thermal analysis of the power system adequately address a broad range of operating conditions. However, when actual or planned operating conditions are determined to potentially exceed the scope of operating guides and thermal analysis, a special complex study should be performed. This procedure establishes the process for determining the need for such a complex study. If it is determined that a complex study is needed, the study is conducted according to SOP-OUTSCH.0050.0020 - Perform Complex Studies.

3. Responsibilities

1. When assigned by the Director, Operations Support Services (or designee), Operations Support Services personnel are responsible for performing this procedure.

4. Controls


None.

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5. Instructions


5.1 When to Consider the Need for a Complex Study

1. When assigned by the Director, Operations Support Services (or designee) Operations Support Services personnel shall perform the following:
 - A. Monitor on an ongoing basis:
 - Transmission additions / retirements and outages
 - Resource additions / retirements and reconfigurations (including changes such as an AVR or PSS replacement)
 - B. Consider if there is a need for a complex study in the case of:
 - Notification by a Local Control Center, Transmission Owner, or external entity of a perceived need to perform a complex study
 - Notification by the ISO Outage Coordination personnel or System Operators during outage evaluations
 - Request for an economic evaluation of a system configuration or outage
 - Conflicting, interacting, or related outages that might significantly impact the New England power system
 - Outages potentially impacting IROL, limits or occurring in a previously recognized sensitive area as identified by:
 - Operating experience
 - TOGs
 - Unusual system configurations
 - Unusual system dispatch conditions
 - Significant changes to New England power system topology
 - The addition or retirement of a Resource or DARD or ATRR

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5.2 Determine the Need for a Complex Study

1. When assigned by the Director, Operations Support Services (or designee), the applicable Operations Support Services personnel shall determine if there is need for a complex study by performing the following:
 - A. Review the Outage Request Form and /or other relevant documentation such as the Transmission/Resource outage plan.
 - B. Consider the following issues and determine if there is a need for a complex study:
 - The applicability of existing TOGs under the current or planned circumstances
 - The results of previous studies
 - The extent to which the current or planned conditions are non-typical
 - The suitability of normal contingency analysis for evaluating the current or planned circumstances
 - Unusual or un-modeled contingencies
 - Voltage issues
 - Stability issues
 - System protection issues
 - Excessive fault current duty
 - Effects on nuclear power stations
 - C. If it is determined that a complex study is **not** required:
 - (1) Notify the requester and inform them of the reasons that further study is **not** warranted.
 - (2) Indicate the applicable TOG or tool for appropriately addressing the current or planned system condition.
 - D. If it is determined that a complex study is required, assign the complex study to a staff person to perform the following in accordance with SOP-OUTSCH.0050.0020 - Perform Complex Studies:
 - a. Forward all relevant information to the assigned staff person.
 - b. As appropriate, provide study recommendations.

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6. Performance Measures

None.

7. References

ISO New England Operating Procedure No. 3 - Transmission Outage Scheduling (OP-3)

ISO New England Operating Procedure No. 5 - Resource Maintenance and Outage Scheduling (OP-5)

ISO New England Operating Procedure No. 19 - Transmission Operations (OP-19)

SOP-OUTSCH.0050.0020 - Perform Complex Studies

8. Revision History

Rev. No.	Date	Reason	Contact
11	10/20/20	Revision history truncated I.A.W. business practice in SOP-RTMKTS.0210.0010. Contact Customer Service for previous revisions. Biennial review.	Dean LaForest
12	10/18/22	Biennial Review. Changed SPS to RAS/ACS. Added in info for additions/retirements in 5.1. Added in info for AVR/PSS replacement in 5.1.	Dean LaForest
12.1	10/17/24	Biennial review performed with no changes required..	Dean LaForest

9. Attachments

None.