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**CALIFORNIA INDEPENDENT SYSTEM  
OPERATOR**

**AND**

**SAN DIEGO GAS & ELECTRIC COMPANY**

**RELIABILITY STANDARDS AGREEMENT**

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## RELIABILITY STANDARDS AGREEMENT

This Reliability Standards Agreement ("Agreement"), dated June 15, 2007, is entered into by and between the California Independent System Operator Corporation, a California nonprofit public benefit corporation ("CAISO") and San Diego Gas & Electric Company ("TE"). In this Agreement, the CAISO and TE are jointly referred to as the "Parties" and individually as a "Party."

### RECITALS

WHEREAS, the Energy Policy Act of 2005 was signed into law in August 2005, which added a new Section 215 to the Federal Power Act giving the Federal Energy Regulatory Commission ("FERC") authority over developing and enforcing reliability standards for the Bulk Power System;

WHEREAS, in Docket RM06-16-000; 118 FERC ¶ 61,218 ("Order No. 693"), FERC approved various Reliability Standards applicable to users, owners and operators of the Bulk Power System developed by the North American Electric Reliability Corporation ("NERC"), the entity certified by FERC as the Electric Reliability Organization ("ERO"), and FERC intends to approve additional Reliability Standards.;

WHEREAS, the NERC, through the Western Electricity Coordinating Council ("WECC") Delegation Agreement (filed with FERC in Docket No. RR07-7) has delegated authority to the WECC for the purposes of proposing Reliability Standards to the ERO and enforcing Reliability Standards within the WECC;

WHEREAS, the CAISO is registered with the NERC as a Transmission Operator ("TOP") in accordance with the NERC compliance registry process and, as such, is responsible for complying with Reliability Standards which are subject to enforcement by the Compliance Enforcement Authority designated by the NERC;

WHEREAS, the TE owns and maintains transmission facilities that are part of the Bulk Power System, is registered with the NERC as a TOP in accordance with the NERC compliance registry process, and, in either capacity, may be subject to Penalties imposed by the Compliance Enforcement Authority for failure to comply with Reliability Standards;

WHEREAS, the CAISO and the TE at times agree upon the delegation of responsibilities in order to ensure that the Reliability Standards and the applicable responsibilities identified in each Reliability Standard are satisfied;

WHEREAS, as of the effective date of Order No. 693 and any subsequent orders related thereto, in order to ensure Reliability Standards are met, Penalties may be

assessed by the Compliance Enforcement Authority for failure to comply with the Reliability Standards;

WHEREAS, in order to ensure that the Reliability Standards and the applicable responsibilities identified in each Reliability Standard are satisfied, and where more than one entity is registered as a user, owner or operator of the Bulk Power System within the same Balancing Authority Area, the FERC in Order No. 693 (¶145) has directed the NERC to assure that there is clarity in identifying responsibilities for, and that there be no gaps or unnecessary redundancies with regard to Parties' compliance with, the requirement of each relevant Reliability Standard; and

WHEREAS, in order to (i) address FERC's concern of unintended redundancy or gaps of responsibilities, particularly such gaps that could occur in the context of compliance with Reliability Standards applicable to multiple entities registered as TOPs, (ii) comply with NERC and WECC compliance registration criteria, and (iii) identify the Party responsible for each Reliability Standard requirement and any Penalties related thereto, the Parties desire to enter into this Agreement to clarify each Party's responsibilities with regard to the Reliability Standards and to address the imposition of Penalties.

## AGREEMENT

NOW THEREFORE, in view of the recitals set forth above, which the Parties acknowledge and agree are accurate representations of the facts and are hereby incorporated by reference, the CAISO and TE agree to the terms of this Agreement that sets forth the delegation of tasks and responsibilities of each Party with regard to the applicable Reliability Standards.

### 1. DEFINITIONS.

Unless otherwise defined herein, all capitalized terms shall have the meaning set forth in the FERC-approved NERC Glossary of Terms, the NERC Functional Model, the WECC/NERC Delegation Agreement, including the WECC Compliance Monitoring and Enforcement Program contained in Exhibit D to the Delegation Agreement, and the NERC Rules of Procedure.

"CAISO Tariff" means the California Independent System Operator Corporation Operating Agreement and Tariff, dated March 31, 1997, as it may be modified from time to time.

"Compliance" means full performance of the tasks and responsibilities and associated measures required by the Reliability Standards requirements, by the NERC compliance procedures and the WECC Compliance Monitoring and Enforcement Program.

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“Confidential Information” means (i) all written materials marked “Confidential”, “Proprietary” or with words of similar import provided to either Party by the other Party, and (ii) all observations of equipment (including computer screens) and oral disclosures related to either Party’s systems, operations and activities that are indicated as such at the time of observation or disclosure, respectively (collectively, “Confidential Information”). Confidential Information includes portions of documents, records and other material forms or representations that either Party may create, including but not limited to, handwritten notes or summaries that contain or are derived from such Confidential Information.

“Delegated Task” means those tasks pursuant to Reliability Standards that are delegated to the Supporting Entity.

“Good Utility Practice” means any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods, and acts that, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be any one of a number of the optimum practices, methods, or acts to the exclusion of all other, but rather to be acceptable practices, methods, or acts generally accepted in the region.

“Non-Complying Party” means either or both Parties that fail to act according to their respective obligations set forth in the applicable Schedules attached to this Agreement.

“Penalty” or “Penalties” means any fine, reprimand or monetary or non-monetary penalty issued or assessed by a Compliance Enforcement Authority.

“Responsible Entity” means the Party that is charged, as set forth in the attached Schedules, with the responsibility for demonstrating Compliance as the registered TOP in accordance with the joint registration of the CAISO and TE with a Reliability Standard requirement. The Responsible Entity shall assemble the documentation necessary for demonstrating Compliance.

“Reliability Standard” means a requirement approved by the FERC under Section 215 of the Federal Power Act to provide for reliable operation of the Bulk Power System. The term includes requirements for the operation of the existing Bulk Power System facilities, including cyber security protection, and the design of planned additions or modifications to such facilities to the extent necessary for the reliable operation of the Bulk Power System; but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.

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“Supporting Entity” means the Party that is charged, as set forth in the attached Schedules, with the responsibility for demonstrating Compliance with a Delegated Task under a Reliability Standard.

## 2. TERM.

**2.1 Effective Date.** This Agreement shall be effective as of the later of the date it is executed by the Parties or the date when the pro forma agreement is accepted for filing and made effective by FERC, if a FERC filing is required.

**2.2 Termination.** This Agreement shall remain in effect until (1) a date upon which the Parties agree in writing to terminate it, or (2) the effective date of the withdrawal of the TE's transmission facilities from the CAISO Balancing Authority Area, or (3) upon six (6) months' written notice of termination by the TE. With respect to any notice of termination given pursuant to this Section, the CAISO must file a timely notice of termination with FERC, if this Agreement was filed with FERC, or must otherwise comply with the requirements of FERC Order No. 2001 and related FERC orders. The filing of the notice of termination by the CAISO with FERC will be considered timely if: (1) the request to file a notice of termination is made after the preconditions for termination have been met, and (2)(a) the CAISO files the notice of termination within sixty (60) days after receipt of such request, or (b) the CAISO files the notice of termination in accordance with the requirements of FERC Order No. 2001. This Agreement shall terminate upon acceptance by FERC of such a notice of termination, if such notice is required to be filed with FERC, or upon ninety (90) days after the CAISO's receipt of the TE's notice of termination, if terminated in accordance with the requirements of FERC Order No. 2001 and related FERC orders.

**2.3 Surviving Obligations.** This Agreement shall continue in effect after termination to the extent necessary to complete corrective mitigating actions identified in the Compliance monitoring process as well as satisfy all other obligations including any financial responsibilities. Upon termination of this Agreement, any outstanding financial right or obligation, and any provision of this Agreement necessary to give effect to such right or obligation, shall survive until satisfied.

**2.4 FERC Submittal of Pro Forma Agreement.** The CAISO shall file the pro forma agreement upon which this Agreement is based with the FERC and shall request that FERC issue an order either disclaiming jurisdiction over the pro forma agreement or establishing an effective date of June 18, 2007 for the pro forma agreement. If FERC determines that the pro forma agreement is subject to its jurisdiction, the CAISO shall use its best efforts to obtain approval of the pro forma agreement in the form submitted, including taking all reasonable,

necessary and usual steps to secure regulatory approval. In the event of a FERC hearing or review process concerning the pro forma agreement, the TE shall file a letter with FERC and, if necessary, submit testimony in support of the pro forma agreement. Following an order of the FERC addressing the pro forma agreement, the Parties shall review such order to determine if the FERC has changed or modified a condition, deleted a condition, or imposed a new condition in the pro forma agreement. Within ten (10) days after the issuance of the FERC order, the Parties shall indicate to each other in writing their acceptance or rejection of this Agreement based upon any changes required by the FERC in the pro forma agreement. A failure to notify within such ten (10) day period will be equivalent to a notification of acceptance. If a Party rejects this Agreement, the Parties shall attempt to renegotiate the objectionable term or condition to satisfy FERC's concerns. Notwithstanding the best efforts of the Parties to comply with the FERC order(s), this Agreement shall terminate if the Parties are unable to reach agreement on appropriate modification(s) within sixty (60) days of the FERC order not accepting the pro forma agreement in its originally filed form.

### **3. STATUS OF PARTIES; REGISTRATION AS TRANSMISSION OPERATOR(S) (TOPs); PURPOSE OF AGREEMENT.**

**3.1 Status of Parties.** The Parties acknowledge that the CAISO is responsible for reliably operating the transmission grid within the CAISO Balancing Authority Area. The Parties also recognize that while the CAISO is a transmission operator under the CAISO Tariff, the CAISO does not own any transmission facilities, and the TE owns, constructs, and maintains the facilities to which generating facilities are interconnected, and that the TE may construct or modify facilities to allow the interconnection. As such, the TE has rights to take actions as necessary to protect its electric system. Furthermore, the CAISO has operational control of certain transmission lines and associated facilities which are to be incorporated into the CAISO controlled grid for the purpose of allowing them to be controlled by the CAISO as part of an integrated Balancing Authority Area. Given this relationship and Order No. 693, the CAISO and TE can both be registered as a TOP.

**3.2 Delegated Tasks.** The Parties agree that as set forth in ¶145 of Order No. 693, NERC and WECC Compliance registration criteria, and any other applicable orders, an entity registered with NERC and charged with the performance of a function remains responsible for Compliance with Reliability Standards for that function, even if the performance of certain tasks is delegated to other entities. Thus, the Parties acknowledge and agree that to ensure clarity in identifying, establishing and delegating responsibility for Compliance for the transmission facilities within the CAISO Balancing Authority Area identified in

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Appendix 1, the Parties delegate such Compliance responsibilities in this Agreement as set forth in the Schedules attached hereto.

**3.3 Purpose of Agreement.** The Parties agree that the purpose of this Agreement is to identify the tasks and responsibilities of each Party with respect to Compliance for the transmission facilities within the CAISO Balancing Authority Area identified in Appendix 1 with Reliability Standards pursuant to Order No. 693 applicable to TOPs and any other similar orders that may be issued from time to time.

**4. DELINEATION OF RESPONSIBILITIES BETWEEN THE CAISO AND TE; SCHEDULES.**

**4.1 Schedules.** To identify the responsibilities of each Party and to avoid gaps or redundancy in the performance of Compliance activities, the Parties have mutually collaborated in developing a Schedule of Compliance responsibilities and Delegated Tasks for each Reliability Standard requirement (where necessary) applicable to the CAISO and the TE as TOPs. The Parties have determined their respective responsibilities for each Reliability Standard requirement based upon consideration of past practice, practicality, efficiency and Good Utility Practice. The Schedules are attached hereto and made a part hereof.

**4.2 Delineation of Responsibilities.** Each Schedule details the CAISO's and the TE's responsibilities and obligations with regard to each specific Reliability Standard requirement by identifying the Responsible Entity, Supporting Entity, and the Delegated Tasks for each respective Reliability Standard requirement. Further, although the Responsible Entity will be the primary contact for the Compliance Enforcement Authority, the Schedule shall set forth in greater detail the obligations of the Supporting Entity in participating in a Compliance Audit.

**4.3 Process for Changing the Schedules or Adding New Schedules.**

**4.3.1** The CAISO, upon approval by the FERC of any new Reliability Standard(s) or change(s) to the existing Reliability Standards, shall communicate those changes in writing to the TE within ten (10) days of receipt of such information or upon availability of such notice, whichever is later, from FERC, NERC or WECC. The Parties shall jointly review any changes to the Reliability Standard(s) or the new Reliability Standard and determine the Party responsible for Compliance with changed or new Reliability Standard requirement(s).

**4.3.2** Upon identification of the Party that is responsible for Compliance with the Reliability Standard requirement(s), the CAISO shall prepare a revised page(s) for the Schedule that includes change(s) resulting from a revised, modified, or new Reliability Standard requirement(s) and forward it to the TE for signatures by the representatives identified in Appendix 2 as having the authority to sign Schedule amendments or new Schedules. The TE shall return it to the CAISO within ten (10) days before such revised Reliability Standards take effect, unless otherwise agreed by the Parties. The CAISO shall provide a signed original of the revised page of the Schedule to the TE. The revised Schedule page shall replace and supersede the existing page, which shall be indicated on the page by its new number as well as the number of the page it is replacing. Such change to a Schedule does not constitute an amendment to this Agreement.

**4.3.3** Upon ten (10) days written notice, either Party may initiate a review of the Schedules for purposes of redefining Delegated Tasks or changing the Responsible Entity designation.

## **5. MUTUAL COOPERATION; PARTICIPATION IN COMPLIANCE AUDIT PROCESS; ALLOCATION OF COMPLIANCE AUDIT PENALTIES.**

**5.1 Mutual Cooperation.** In addition to any obligations set forth in the Schedules, the Parties agree to cooperate fully to provide each other the information, documentation and assistance necessary to demonstrate Compliance with their respective obligations. Unless otherwise agreed, the Parties agree that upon fifteen (15) days of receipt of a written notice from the Party requesting the information, the other Party responsible for providing the information shall timely deliver the requested information. The written notice shall be delivered as set forth in Section 9.19 of this Agreement, unless the Schedule identifies an alternative person and means of communication.

**5.2 Participation in Compliance Audit Process.** In accordance with Section 3.1.1 of the WECC Compliance Monitoring and Enforcement Program, the Responsible Entity shall promptly furnish the audit report to the Supporting Entity for review and comment before it is finalized, and shall notify the Supporting Entity in writing if the audit team schedules an exit interview, in which case the Supporting Entity shall have the right to participate in discussions with the audit team.

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**5.3 Notice of Alleged Violation.** The Responsible Entity will notify the Supporting Entity in writing within seven (7) days of receiving written notice of an Alleged Violation from the Compliance Enforcement Authority as set forth in Section 5.1 of the WECC Compliance Monitoring and Enforcement Program. In the event that there is a question or dispute as to who the Non-Complying Party is, then the alleged Non-Complying Party shall immediately notify the other Party in writing and detail its support for why it should not be deemed the Non-Complying Party. Upon ten (10) days review by the other Party, that Party shall notify the alleged Non-Complying Party as to whether it agrees with the alleged Non-Complying Party's assessment and both Parties shall mutually decide how to remedy and respond to the Alleged Violation within the time frame set forth in Section 5.1.

**5.4 Participation in Appeals Process.** If either Party seeks to challenge the Alleged Violation, the other Party shall provide any assistance, documentation and information necessary to assist the challenging Party to challenge the findings of the Compliance Enforcement Authority, respond to notices of Alleged Violations, enter into settlement discussions with the Compliance Enforcement Authority, and initiate and participate in any hearing and appeal process with respect to the Alleged Violation in accordance with Sections 5.1-5.5 of the WECC Compliance Monitoring and Enforcement Program and the NERC and FERC appeals processes.

**5.5 Arbitration for Non-Compliance.** In the event the alleged Non-Complying Party and the other Party cannot reach a resolution as to liability for the Alleged Violation, the Parties shall resolve such dispute through arbitration as set forth in Section 9.1 below.

**5.6 Allocation and Recovery of Penalties.** In the event a Compliance Enforcement Authority assesses Penalties for failure to comply with the Reliability Standards, to the extent that WECC or other similar enforcement entity has jurisdiction to impose a fine and assess a Penalty, then the Non-Complying Party shall bear the cost of such Penalties in proportion to its respective fault, as determined mutually or through dispute resolution as set forth in Section 9.1 below. Each Non-Complying Party shall be responsible for remedying the non-compliance as required by the Compliance Enforcement Authority. Should the Non-Complying Party be identified as the CAISO, any Penalties attributable to the CAISO shall be satisfied by allocating such costs as set forth in the CAISO Tariff or as otherwise required or ordered by the FERC; provided, however, that non-monetary penalties directed to the CAISO for performance specifically by the CAISO shall not be included in the allocation process.

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**6. AMENDMENT TO AGREEMENT.**

This Agreement may not be amended or otherwise modified without the written consent of both Parties. Changes to Schedules and Appendices will not constitute an amendment to this Agreement.

**7. USE OF CONTRACTORS.**

Nothing in this Agreement shall prevent either the CAISO or the TE from using qualified third party contractors to meet the Party's rights or obligations under this Agreement. However, under no circumstances shall the use or hiring of a qualified third party contractor or agent relieve either the CAISO or the TE of any liability hereunder. Without limiting the foregoing, either Party shall have the right to file counterclaim against the third party contractor for such third party's failure or negligence to satisfy its obligations under its arrangement with the CAISO or TE, as applicable.

**8. PERFORMANCE STANDARDS.**

Each Party shall perform all of its obligations under this Agreement in accordance with applicable laws and regulations, applicable Reliability Standards, and Good Utility Practice.

**9. GENERAL TERMS AND CONDITIONS.**

**9.1 Dispute Resolution.** Except as provided herein, in the event of any dispute regarding the terms, conditions and performance of this Agreement, including but not limited to a dispute regarding responsibility for Penalties assessed by the Compliance Enforcement Authority, and such dispute is not settled informally, the Parties shall follow the CAISO dispute resolution procedures set forth in Section 13 of the CAISO Tariff.

**9.1.1** Notwithstanding any provision to the contrary in Section 13.3.5.1 of the CAISO Tariff, if a dispute regarding the interpretation or the application of this Agreement, or the apportionment of responsibility and penalties, is referred to the dispute resolution process set forth in this Agreement, the arbitrator(s) shall have no authority to add to, delete from, or alter this Agreement; provided, however, that the arbitrator(s) shall have the authority to grant reformation of the Agreement in the case of a scrivener's error or rescission of the Agreement, when appropriate.

**9.1.2** If a Party is precluded by federal or state law from agreeing to, or participating in, the foregoing dispute resolution process, then either Party to this Agreement may bring an action in a court of competent jurisdiction

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to interpret or enforce this Agreement, or to apportion responsibility and Penalties for non-compliance with a Reliability Standard.

**9.2 Liability.** Except for Penalties assessed by a Compliance Enforcement Authority, no Party to this Agreement shall be liable to any other party for any indirect, special, incidental or consequential losses, damages, claims, liabilities, costs or expenses (including attorneys fees and court costs) arising from the performance or non-performance of its obligations under this Agreement regardless of the cause (including intentional action, willful action, gross or ordinary negligence, or force majeure); provided, however, that a Party may seek equitable or other non-monetary relief as may be necessary to enforce this Agreement and that damages for which a Party may be liable to another Party under another agreement will not be considered damages under this Agreement.

### **9.3 Confidentiality.**

**9.3.1 Treatment of Confidential Information.** The Parties recognize and agree that for the purposes of complying with the Reliability Standards and responding to a Compliance Audit, they will receive information from each other that has been marked as Confidential Information. Except as set forth herein, the Parties agree to keep in confidence and not to copy, disclose, or distribute any Confidential Information or any part thereof, without the prior written permission of the other Party.

**9.3.1.1 Location of Confidential Information.** Confidential Information that the Parties have given to each other in hard copy form that is intended for disclosure to the Compliance Enforcement Authority during the course of a Compliance Audit will be kept in a secure and restricted location separate and apart from the business records of the Party receiving the Confidential Information.

**9.3.1.2 Provision of Confidential Information to Compliance Enforcement Authority.** During the course of a Compliance Audit, the Party providing the Confidential Information to the Compliance Enforcement Authority shall notify the other Party if and when the Compliance Enforcement Authority takes physical possession of the Confidential Information. If the Compliance Enforcement Authority takes physical possession of the Confidential Information, the receiving Party shall be permitted to make one copy of the Confidential Information that will be afforded confidential treatment pursuant to this Agreement. To the extent the Compliance Enforcement Authority does not take physical possession of the Confidential Information, or if a copy has been made of the Confidential Information, the receiving Party shall return the Confidential Information to the providing Party promptly after the conclusion of the Compliance Audit, including the appeal

of Alleged Violations or Penalties. The Party providing the other Party's Confidential Information to the Compliance Enforcement Authority has the affirmative duty to request that the Compliance Enforcement Authority treat the Confidential Information as Confidential Information under NERC Rules of Procedure Section 1500.

**9.3.2 Disclosure of Confidential Information.** If, while in the possession of the receiving Party, disclosure of the Confidential Information is required to respond to a subpoena, law, or other directive of a court, administrative agency, or arbitration panel, the receiving Party hereby agrees to provide the providing Party with prompt written notice of such request or requirement in order to enable the providing Party to (a) seek an appropriate protective order or other remedy, (b) consult with the receiving Party with respect to taking steps to resist or narrow the scope of such request or legal process, or (c) waive compliance, in whole or in part, with the terms of this Section. The receiving Party agrees to work with the providing Party to obtain assurance that confidential treatment will be accorded to such Confidential Information and will cooperate to the maximum extent practicable to minimize the disclosure of the Confidential Information consistent with applicable law.

**9.3.3 Exceptions to Non-Disclosure.** Notwithstanding Sections 9.3.1 and 9.3.2 above, each Party to this Agreement shall not have breached any obligation under this Agreement if Confidential Information is disclosed to a third party when the Confidential Information:

- (a) was in the public domain at the time of such disclosure or is subsequently made available to the public consistent with the terms of this Agreement; or
- (b) had been received by either Party at the time of disclosure through other means without restriction on its use, or had been independently developed by either Party as shown through documentation; or
- (c) is subsequently disclosed to either Party by a third party without restriction on use and without breach of any agreement or legal duty; or
- (d) subject to the provisions of Sections 9.3.1 and 9.3.2, is used or disclosed pursuant to statutory duty or an order, subpoena or other lawful process issued by a court or other governmental authority of competent jurisdiction.

**9.3.4 Other Parties.** Each Party shall keep Confidential Information in confidence and shall not disclose such information or otherwise make it

available, in any form or manner, to any other person or entity (a “third party”) other than its employees, without the prior written consent of the other Party. Each Party will cause each of its employees, contractors, sub-contractors, sub-contractors’ employees and agents who will have access to Confidential Information, if any, to acknowledge that they have read this Agreement and agree to abide by all of its terms regarding use and disclosure of Confidential Information.

**9.4 Binding Effect.** This Agreement and the rights and obligations hereof, shall be binding upon and shall inure to the benefit of the successors and assigns of the Parties hereto.

**9.5 Rules of Interpretation.** This Agreement, unless a clear contrary intention appears, shall be construed and interpreted as follows:

- (1) the singular number includes the plural number and vice versa;
- (2) reference to any person includes such person’s successors and assigns but, in the case of a Party, only if such successors and assigns are permitted by this Agreement, and reference to a person in a particular capacity excludes such person in any other capacity or individually;
- (3) reference to any agreement, document, instrument, or tariff means such agreement, document, instrument, or tariff as amended or modified and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder;
- (4) reference to any applicable laws and regulations means such applicable laws and regulations as amended, modified, codified, or reenacted, in whole or in part, and in effect from time to time, including, if applicable, rules and regulations promulgated thereunder;
- (5) unless expressly stated otherwise, reference to any Article, Section, Schedule, or Appendix means such Article or Section of this Agreement or such Schedule or Appendix to this Agreement;
- (6) “hereunder”, “hereof”, “herein”, “hereto” and words of similar import shall be deemed references to this Agreement as a whole and not to any particular Section;
- (7) “including” (and with correlative meaning “include”) means including without limiting the generality of any description preceding such term;

(8) relative to the determination of any period of time, "from" means "from and including", "to" means "to but excluding" and "through" means "through and including;" and

(9) "days" shall mean calendar days; if the last calendar day falls on a weekend or national holiday, the specified deadline shall fall on the next calendar day that is not a weekend or national holiday.

**9.6 Entire Agreement.** This Agreement, including all Attachments, Exhibit(s) and Schedule(s) hereto, constitutes the entire agreement among the Parties with reference to the subject matter hereof, and supersedes all prior and contemporaneous understandings or agreements, oral or written, among the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants, which constitute any part of the consideration for, or any condition to, any Party's compliance with its obligations under this Agreement.

**9.7 General Interpretation.** The terms of this Agreement have been negotiated by the Parties hereto and the language used in this Agreement shall be deemed the language chosen by the Parties to express their mutual intent. This Agreement shall be construed without regard to any presumption or rule requiring construction against the party causing such instrument or portion hereof to be drafted or in favor of the party receiving a particular benefit under this Agreement. No rule or strict construction will be applied against any Party.

**9.8 No Third Party Beneficiaries.** This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

**9.9 Waiver.** The failure of a Party to this Agreement to insist, on any occasion, upon strict performance of any provision of this Agreement will not be considered a waiver of any obligation, right, or duty of, or imposed upon, such Party. Any waiver at any time by a Party of its rights with respect to this Agreement shall not be deemed a continuing waiver or a waiver with respect to any other failure to comply with any other obligation, right, or duty of this Agreement. Any waiver of this Agreement shall, if requested, be provided in writing. Any waivers at any time by any Party of its rights with respect to any default under this Agreement, or with respect to any other matter arising in connection with this Agreement, shall not constitute or be deemed a waiver with respect to any subsequent default or other matter arising in connection with this Agreement. Any delay, short of the statutory period of limitations, in asserting or enforcing any right under this Agreement shall not constitute or be deemed a waiver of such right.

**9.10 Headings.** The descriptive headings of the various Articles and Sections of this Agreement have been inserted for convenience of reference only and are of no significance in the interpretation or construction of this Agreement.

**9.11 Authority.** The undersigned hereby represents and warrants that he or she has the requisite power and authority to bind the applicable Party to the terms and obligations of this Agreement.

**9.12 Multiple Counterparts.** This Agreement may be executed in two or more counterparts, each of which is deemed an original but all constitute one and the same instrument.

**9.13 No Partnership.** This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties or to impose any partnership obligation or partnership liability upon any Party. No Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, another Party.

**9.14 Assignment.** This Agreement may be assigned by a Party only with the written consent of the other Party; provided that a Party may assign this Agreement without the consent of the other Party to any affiliate of the assigning Party with an equal or greater credit rating and with the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement. Any attempted assignment that violates this Section 9.14 is void and ineffective. Any assignment under this Agreement shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason thereof. Where required, consent to assignment will not be unreasonably withheld, conditioned or delayed. Notwithstanding the above, this Agreement may be assigned by a governmental Party without consent of the other Parties, if the United States, a state, or a local government with jurisdiction over such Party orders such governmental Party to assign this Agreement.

**9.15 Specific Performance.** Each Party's obligations under this Agreement are unique. The Parties each acknowledge that, if any Party should default in performance of the duties and obligations imposed by this Agreement, it would be extremely impracticable to measure the resulting damages. Accordingly, the non-defaulting Party, in addition to any other available rights or remedies, may sue in equity for specific performance and the Parties each expressly waive the defense that a remedy in damages will be adequate.

**9.16 Force Majeure.** No Party shall be liable for any failure to perform its obligations in connection with any action described in this Agreement, if such failure results from an Uncontrollable Force as defined in the CAISO Tariff (including any mechanical, electronic, or communication failures, but excluding failure caused by a party's financial condition or negligence).

**9.17 Governing Law.** The rights and obligations of the Parties and the interpretation and performance of this Agreement shall be governed by the law of California, excluding its conflicts of law rules, except if a federal Party is involved, in which case federal law shall apply as if performed within the state of California. Notwithstanding the foregoing, nothing shall affect the rights of the TE under Section 215 of the FPA, any applicable agreement, the NERC Rules of Procedure, or rules or orders promulgated by FERC.

**9.18 Consistency with Federal Laws and Regulations.** Section 22.9 of the CAISO Tariff titled "Consistency with Federal Laws and Regulations" is hereby incorporated herein by reference, providing however, that the references to the CAISO Tariff in Section 22.9 shall include this Agreement.

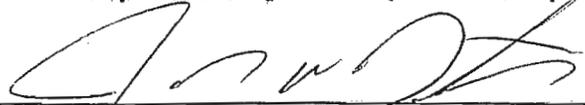
**9.19 Notices.** Any requirement for written notice provided in this Agreement will be in writing transmitted via electronic mail to the persons identified in Appendix 2 followed with a hard copy delivered in person, sent by overnight mail or United States certified mail within three (3) days of the electronic mail transmission. Electronic mail notice shall be deemed effective upon transmission unless the Party sending the electronic mail learns that delivery was unsuccessful, in which case notice is deemed effective upon service of the hard copy. Any Party may at any time, by at least fifteen (15) days notice to the other Party, change the designation or address of a person specified in Appendix 2. Such a change to Appendix 2 shall not constitute an amendment to this Agreement.

**9.20 FERC Jurisdiction.** Nothing in this Agreement shall be meant to imply or cede jurisdiction to FERC, NERC or any other regulatory or Compliance Enforcement Authority, to the extent that FERC, NERC or other regulatory or Compliance Enforcement Authority does not have jurisdiction over a Party to this Agreement. FERC, NERC and other regulatory or Compliance Enforcement Authority entities have limited jurisdiction over certain Parties and, by executing this Agreement, no Party is waiving or conceding any defenses it has to assert jurisdictional defenses, including, but not limited to, sovereign immunity, intergovernmental immunities, or lack of subject matter jurisdiction.

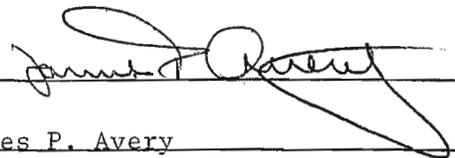
**9.21 Severability.** If any term or provision of this Agreement is held to be illegal, invalid, or unenforceable under any present or future law or by the Federal Energy Regulatory Commission, (a) such term or provision shall be fully severable, (b) this Agreement shall be construed and enforced as if such illegal, invalid or unenforceable provision had never comprised a part hereof, and (c) the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid or unenforceable provision or by its severance herefrom.

IN WITNESS WHEREOF, the Parties have executed this Agreement and it is effective as of the effective date pursuant to Section 2.1.

California Independent System Operator Corporation

By:   
Name: JAMES W. DETMEKS   
Title: VP OPERATIONS  
Date: 6/15/07

San Diego Gas & Electric Company

By:   
Name: James P. Avery  
Title: Senior Vice President - Electric  
Date: June 14, 2007

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**APPENDIX 1****APPLICABLE TRANSMISSION FACILITIES  
SAN DIEGO GAS & ELECTRIC COMPANY****[SECTIONS 3.2 AND 3.3]**

The following transmission facilities within the CAISO Balancing Authority Area that are internal to the TE's transmission system and end at the point of interconnection with other TOPs are applicable to the Agreement as follows:

1. Those transmission facilities listed in the ISO Register that are under CAISO Operational Control as identified to the TE by transmission line number, terminal facility number, or substation transformer bank number, as amended from time to time.
2. Those transmission facilities comprising the terminal facilities associated with the facilities identified in the preceding paragraph, including without limitation to buses, breakers, disconnects, reactive devices, protection, monitoring, and control.
3. Those transmission facilities and terminal facilities operated by the TE pursuant to the IMPERIAL IRRIGATION DISTRICT (IID) AND SAN DIEGO GAS & ELECTRIC COMPANY CALIFORNIA TRANSMISSION SYSTEM PARTICIPATION AGREEMENT (California Agreement) between those two parties, as amended from time to time. This California Agreement is an Entitlement and Encumbrance listed under the Transmission Control Agreement (TCA).

Provided, however, the transmission facilities described in the paragraphs above do not include those transmission facilities, including associated terminal facilities, owned by the TE in the State of Arizona that are the subject of the ARIZONA PUBLIC SERVICE COMPANY AND SAN DIEGO GAS & ELECTRIC COMPANY ARIZONA TRANSMISSION SYSTEM PARTICIPATION AGREEMENT (Arizona Agreement), as amended from time to time. Those Southwest Powerlink transmission facilities in the State of Arizona (i) owned by the TE that are under the Operational Control of the CAISO pursuant to the TCA and (ii) those portions of the Southwest Powerlink owned by Arizona Public Service Company (APS) and IID are operated by APS pursuant to the Arizona Agreement, which is an Entitlement and Encumbrance listed under the TCA.

**APPENDIX 2 (Amended)****NOTICES****[Section 4.3]**

Transmission Entity: San Diego Gas & Electric Company

Name of Primary  
Representative for changes  
to Delegation Agreement:

James F. Walsh

Title:

Senior Counsel

Company:

San Diego Gas & Electric Company

Address:

101 Ash, HQ12

City / State / Zip Code:

San Diego, CA 92101-3017

Email Address:

jfwalsh@semprautilities.com

Telephone:

(619) 699-5022

Fax:

(619) 699-5027

Name of Alternative  
Representative for changes  
to Delegation Agreement:

E. Gregory Barnes

Title:

Senior Counsel

Company:

San Diego Gas & Electric Company

Address:

101 Ash, HQ12

City / State / Zip Code:

San Diego, CA 92101-3017

Email Address:

gbarnes@semprautilities.com

Telephone:

(619) 699-5019

Fax:

(619) 699-5027

Name of Primary  
Representative for changes  
to Compliance Schedules,  
and Authorized Signature  
for Compliance Schedule  
Adds, Deletions, and  
Changes:

Scott N. Peterson

Title:

Director, Electric Grid Operations

Company:

San Diego Gas & Electric Company

Address:

9060 Friars Road

City / State / Zip Code:

San Diego, CA 92108-5855

Email Address:

[speterson@semprautilities.com](mailto:speterson@semprautilities.com)

Telephone:

(619) 725-8639

Fax:

(619) 725-8616

Name of Alternative  
Representative for changes  
to Compliance Schedules:

Randy Schimka

Title:

FERC & CAISO Regulatory Affairs,  
NERC Compliance Manager

Company:

San Diego Gas & Electric Company

Address:

8330 Century Park Court, CP32H

City / State / Zip Code:

San Diego, CA 92123

Email Address:

[rschimka@semprautilities.com](mailto:rschimka@semprautilities.com)

Telephone:

(858) 636-3922

Fax:

(858) 654-1586

  
San Diego Gas & Electric Company  
Authorized Representative

10-26-10

Date

Scott Peterson  
Print Name

Director, Electric Grid operations  
Print Title

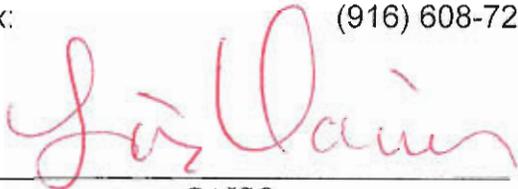
**APPENDIX 2 (Amended)**

**NOTICES**  
**[Section 4.3]**

**CAISO**

Name of Primary Representative: Lisa Milanes  
Title: Director, Corporate Compliance  
Address: 250 Outcropping Way  
City/State/Zip Code: Folsom, CA 95630  
Email address: [lmilanes@caiso.com](mailto:lmilanes@caiso.com)  
Phone: (916) 351-2172  
Fax: (916) 608-7222

Name of Alternative Representative: Burton Gross  
Title: Senior Counsel  
Address: 250 Outcropping Way  
City/State/Zip Code: Folsom, CA 95630  
Email address: [bgross@caiso.com](mailto:bgross@caiso.com)  
Phone: (916) 608-7268  
Fax: (916) 608-7222

CAISO

Date

Authorized Representative

Lisa Milanes

Print Name

Director, Corporate Compliance

Print Title

**BAL-005-0.1b**

Requirement and Sub-requirements:

**R1.** All generation, transmission, and load operating within an Interconnection must be included within the metered boundaries of a Balancing Authority Area.  
**R1.2.** Each Transmission Operator with transmission facilities operating in an Interconnection shall ensure that those transmission facilities are included within the metered boundaries of a Balancing Authority Area.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

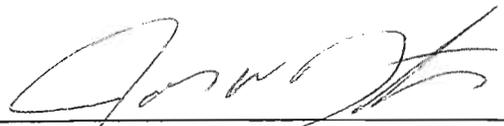
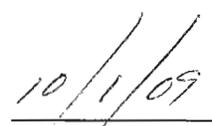
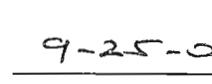
**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

The TE will ensure that all of its transmission facilities are within the metered boundaries of a Balancing Authority Area, as required in R1.2.

 _____ CAISO Authorized Representative	 _____ Date
 _____ TE Authorized Representative	 _____ Date

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**Schedule CIP-001-2**

**Requirement and Sub-requirements:**

**R1.** Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load Serving Entity shall have procedures for the recognition of and for making their operating personnel aware of sabotage events on its facilities and multi-site sabotage affecting larger portions of the Interconnection.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

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**Schedule CIP-001-2**

**Requirement and Sub-requirements:**

**R2.** Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load Serving Entity shall have procedures for the communication of information concerning sabotage events to appropriate parties in the Interconnection.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

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**Schedule CIP-001-2**

Requirement and Sub-requirements:

**R3.** Each Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, and Load Serving Entity shall provide its operating personnel with sabotage response guidelines, including personnel to contact, for reporting disturbances due to sabotage events.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**



### Schedule CIP-002-3

#### Requirement and Sub-requirements:

**R1. Critical Asset Identification Method** — The Responsible Entity shall identify and document a risk-based assessment methodology to use to identify its Critical Assets.

**R1.1.** The Responsible Entity shall maintain documentation describing its risk-based assessment methodology that includes procedures and evaluation criteria.

**R1.2.** The risk-based assessment shall consider the following assets:

**R1.2.1.** Control centers and backup control centers performing the functions of the entities listed in the Applicability section of this standard.

**R1.2.2.** Transmission substations that support the reliable operation of the Bulk Electric System.

**R1.2.3.** Generation resources that support the reliable operation of the Bulk Electric System.

**R1.2.4.** Systems and facilities critical to system restoration, including blackstart generators and substations in the electrical path of transmission lines used for initial system restoration.

**R1.2.5.** Systems and facilities critical to automatic load shedding under a common control system capable of shedding 300 MW or more.

**R1.2.6.** Special Protection Systems that support the reliable operation of the Bulk Electric System.

**R1.2.7.** Any additional assets that support the reliable operation of the Bulk Electric System that the Responsible Entity deems appropriate to include in its assessment.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

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**Schedule CIP-002-3**

Requirement and Sub-requirements:

**R2. Critical Asset Identification** - The Responsible Entity shall develop a list of its identified Critical Assets determined through an annual application of the risk-based assessment methodology required in R1. The Responsible Entity shall review this list at least annually, and update it as necessary.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

### Schedule CIP-002-3

#### Requirement and Sub-requirements:

**R3. Critical Cyber Asset Identification** — Using the list of Critical Assets developed pursuant to Requirement R2, the Responsible Entity shall develop a list of associated Critical Cyber Assets essential to the operation of the Critical Asset. Examples at control centers and backup control centers include systems and facilities at master and remote sites that provide monitoring and control, automatic generation control, real-time power system modeling, and real-time inter-utility data exchange. The Responsible Entity shall review this list at least annually, and update it as necessary. For the purpose of Standard CIP-002-3, Critical Cyber Assets are further qualified to be those having at least one of the following characteristics:

**R3.1.** The Cyber Asset uses a routable protocol to communicate outside the Electronic Security Perimeter; or,

**R3.2.** The Cyber Asset uses a routable protocol within a control center; or,

**R3.3.** The Cyber Asset is dial-up accessible.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

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### Schedule CIP-003-3

#### Requirement and Sub-requirements:

**R1.** Cyber Security Policy - The Responsible Entity shall document and implement a cyber security policy that represents management's commitment and ability to secure its Critical Cyber Assets. The Responsible Entity shall, at minimum, ensure the following:

**R1.1.** The cyber security policy addresses the requirements in Standards CIP-002-3 through CIP-009-3, including provision for emergency situations.

**R1.2.** The cyber security policy is readily available to all personnel who have access to, or are responsible for, Critical Cyber Assets.

**R1.3.** Annual review and approval of the cyber security policy by the senior manager assigned pursuant to R2.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

### Schedule CIP-003-3

#### Requirement and Sub-requirements:

**R2. Leadership** - The Responsible Entity shall assign a single senior manager with overall responsibility and authority for leading and managing the entity's implementation of, and adherence to, Standards CIP-002-3 through CIP-009-3.

**R2.1.** The senior manager shall be identified by name, title, and date of designation.

**R2.2.** Changes to the senior manager must be documented within thirty calendar days of the effective date.

**R2.3.** Where allowed by Standards CIP-002-3 through CIP-009-3, the senior manager may delegate authority for specific actions to a named delegate or delegates. These delegations shall be documented in the same manner as R2.1 and R2.2, and approved by the senior manager.

**R2.4.** The senior manager or delegate(s), shall authorize and document any exception from the requirements of the cyber security policy.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

CAISO

TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

CAISO

TE

None for this standard

#### DELEGATED TASKS

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**Schedule CIP-003-3**

Requirement and Sub-requirements:

**R3.** Exceptions - Instances where the Responsible Entity cannot conform to its cyber security policy must be documented as exceptions and authorized by the senior manager or delegate(s).

**R3.1.** Exceptions to the Responsible Entity's cyber security policy must be documented within thirty days of being approved by the senior manager or delegate(s).

**R3.2.** Documented exceptions to the cyber security policy must include an explanation as to why the exception is necessary and any compensating measures.

**R3.3.** Authorized exceptions to the cyber security policy must be reviewed and approved annually by the senior manager or delegate(s) to ensure the exceptions are still required and valid. Such review and approval shall be documented.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

### Schedule CIP-003-3

#### Requirement and Sub-requirements:

**R4.** Information Protection - The Responsible Entity shall implement and document a program to identify, classify, and protect information associated with Critical Cyber Assets.

**R4.1.** The Critical Cyber Asset information to be protected shall include, at a minimum and regardless of media type, operational procedures, lists as required in Standard CIP-002-3, network topology or similar diagrams, floor plans of computing centers that contain Critical Cyber Assets, equipment layouts of Critical Cyber Assets, disaster recovery plans, incident response plans, and security configuration information.

**R4.2.** The Responsible Entity shall classify information to be protected under this program based on the sensitivity of the Critical Cyber Asset information.

**R4.3.** The Responsible Entity shall, at least annually, assess adherence to its Critical Cyber Asset information protection program, document the assessment results, and implement an action plan to remediate deficiencies identified during the assessment.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

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**Schedule CIP-003-3**

Requirement and Sub-requirements:

**R5. Access Control** — The Responsible Entity shall document and implement a program for managing access to protected Critical Cyber Asset information.  
**R5.1.** The Responsible Entity shall maintain a list of designated personnel who are responsible for authorizing logical or physical access to protected information.  
**R5.1.1.** Personnel shall be identified by name, title, and the information for which they are responsible for authorizing access.  
**R5.1.2.** The list of personnel responsible for authorizing access to protected information shall be verified at least annually.  
**R5.2.** The Responsible Entity shall review at least annually the access privileges to protected information to confirm that access privileges are correct and that they correspond with the Responsible Entity's needs and appropriate personnel roles and responsibilities.  
**R5.3.** The Responsible Entity shall assess and document at least annually the processes for controlling access privileges to protected information.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**



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### Schedule CIP-004-3

#### Requirement and Sub-requirements:

**R1. Awareness** — The Responsible Entity shall establish, document, implement, and maintain a security awareness program to ensure personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets receive on-going reinforcement in sound security practices. The program shall include security awareness reinforcement on at least a quarterly basis using mechanisms such as:

- Direct communications (e.g., emails, memos, computer based training, etc.);
- Indirect communications (e.g., posters, intranet, brochures, etc.);
- Management support and reinforcement (e.g., presentations, meetings, etc.).

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

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### Schedule CIP-004-3

#### Requirement and Sub-requirements:

**R2.** Training — The Responsible Entity shall establish, document, implement, and maintain an annual cyber security training program for personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets. The cyber security training program shall be reviewed annually, at a minimum, and shall be updated whenever necessary.

**R2.1.** This program will ensure that all personnel having such access to Critical Cyber Assets, including contractors and service vendors, are trained prior to their being granted such access except in specified circumstances such as an emergency.

**R2.2.** Training shall cover the policies, access controls, and procedures as developed for the Critical Cyber Assets covered by CIP-004-3, and include, at a minimum, the following required items appropriate to personnel roles and responsibilities:

**R2.2.1.** The proper use of Critical Cyber Assets;

**R2.2.2.** Physical and electronic access controls to Critical Cyber Assets;

**R2.2.3.** The proper handling of Critical Cyber Asset information; and,

**R2.2.4.** Action plans and procedures to recover or re-establish Critical Cyber Assets and access thereto following a Cyber Security Incident.

**R2.3.** The Responsible Entity shall maintain documentation that training is conducted at least annually, including the date the training was completed and attendance records.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

CAISO

TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

CAISO

TE

None for this standard

#### DELEGATED TASKS

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### Schedule CIP-004-3

#### Requirement and Sub-requirements:

**R3. Personnel Risk Assessment** —The Responsible Entity shall have a documented personnel risk assessment program, in accordance with federal, state, provincial, and local laws, and subject to existing collective bargaining unit agreements, for personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets. A personnel risk assessment shall be conducted pursuant to that program prior to such personnel being granted such access except in specified circumstances such as an emergency.

The personnel risk assessment program shall at a minimum include:

**R3.1.** The Responsible Entity shall ensure that each assessment conducted include, at least, identity verification (e.g., Social Security Number verification in the U.S.) and seven-year criminal check. The Responsible Entity may conduct more detailed reviews, as permitted by law and subject to existing collective bargaining unit agreements, depending upon the criticality of the position.

**R3.2.** The Responsible Entity shall update each personnel risk assessment at least every seven years after the initial personnel risk assessment or for cause.

**R3.3.** The Responsible Entity shall document the results of personnel risk assessments of its personnel having authorized cyber or authorized unescorted physical access to Critical Cyber Assets, and that personnel risk assessments of contractor and service vendor personnel with such access are conducted pursuant to Standard CIP-004-3.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

--

**Schedule CIP-004-3**

Requirement and Sub-requirements:

**R4. Access** — The Responsible Entity shall maintain list(s) of personnel with authorized cyber or authorized unescorted physical access to Critical Cyber Assets, including their specific electronic and physical access rights to Critical Cyber Assets.  
**R4.1.** The Responsible Entity shall review the list(s) of its personnel who have such access to Critical Cyber Assets quarterly, and update the list(s) within seven calendar days of any change of personnel with such access to Critical Cyber Assets, or any change in the access rights of such personnel. The Responsible Entity shall ensure access list(s) for contractors and service vendors are properly maintained.  
**R4.2.** The Responsible Entity shall revoke such access to Critical Cyber Assets within 24 hours for personnel terminated for cause and within seven calendar days for personnel who no longer require such access to Critical Cyber Assets.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

[Empty box for delegated tasks]

  
\_\_\_\_\_  
CAISO  
Authorized Representative

2/28/11  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

2-17-11  
Date

**Schedule CIP-005-3**

Requirement and Sub-requirements:

**R1. Electronic Security Perimeter** — The Responsible Entity shall ensure that every Critical Cyber Asset resides within an Electronic Security Perimeter. The Responsible Entity shall identify and document the Electronic Security Perimeter(s) and all access points to the perimeter(s).

**R1.1.** Access points to the Electronic Security Perimeter(s) shall include any externally connected communication end point (for example, dial-up modems) terminating at any device within the Electronic Security Perimeter(s).

**R1.2.** For a dial-up accessible Critical Cyber Asset that uses a non-routable protocol, the Responsible Entity shall define an Electronic Security Perimeter for that single access point at the dial-up device.

**R1.3.** Communication links connecting discrete Electronic Security Perimeters shall not be considered part of the Electronic Security Perimeter. However, end points of these communication links within the Electronic Security Perimeter(s) shall be considered access points to the Electronic Security Perimeter(s).

**R1.4.** Any non-critical Cyber Asset within a defined Electronic Security Perimeter shall be identified and protected pursuant to the requirements of Standard CIP-005-3.

**R1.5.** Cyber Assets used in the access control and/or monitoring of the Electronic Security Perimeter(s) shall be afforded the protective measures as a specified in Standard CIP-003-3; Standard CIP-004-3 Requirement R3; Standard CIP-005-3 Requirements R2 and R3; Standard CIP-006-3 Requirement R3; Standard CIP-007-3 Requirements R1 and R3 through R9; Standard CIP-008-3; and Standard CIP-009-3.

**R1.6.** The Responsible Entity shall maintain documentation of Electronic Security Perimeter(s), all interconnected Critical and non-critical Cyber Assets within the Electronic Security Perimeter(s), all electronic access points to the Electronic Security Perimeter(s) and the Cyber Assets deployed for the access control and monitoring of these access points.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**Schedule CIP-005-3**

Requirement and Sub-requirements:

**R2. Electronic Access Controls** — The Responsible Entity shall implement and document the organizational processes and technical and procedural mechanisms for control of electronic access at all electronic access points to the Electronic Security Perimeter(s).

**R2.1.** These processes and mechanisms shall use an access control model that denies access by default, such that explicit access permissions must be specified.

**R2.2.** At all access points to the Electronic Security Perimeter(s), the Responsible Entity shall enable only ports and services required for operations and for monitoring Cyber Assets within the Electronic Security Perimeter, and shall document, individually or by specified grouping, the configuration of those ports and services.

**R2.3.** The Responsible Entity shall implement and maintain a procedure for securing dial-up access to the Electronic Security Perimeter(s).

**R2.4.** Where external interactive access into the Electronic Security Perimeter has been enabled, the Responsible Entity shall implement strong procedural or technical controls at the access points to ensure authenticity of the accessing party, where technically feasible.

**R2.5.** The required documentation shall, at least, identify and describe:

**R2.5.1.** The processes for access request and authorization.

**R2.5.2.** The authentication methods.

**R2.5.3.** The review process for authorization rights, in accordance with Standard CIP-004-3 Requirement R4.

**R2.5.4.** The controls used to secure dial-up accessible connections.

**R2.6. Appropriate Use Banner** — Where technically feasible, electronic access control devices shall display an appropriate use banner on the user screen upon all interactive access attempts. The Responsible Entity shall maintain a document identifying the content of the banner.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**Schedule CIP-005-3**

Requirement and Sub-requirements:

**R3. Monitoring Electronic Access** — The Responsible Entity shall implement and document an electronic or manual process(es) for monitoring and logging access at access points to the Electronic Security Perimeter(s) twenty-four hours a day, seven days a week.

**R3.1.** For dial-up accessible Critical Cyber Assets that use non-routable protocols, the Responsible Entity shall implement and document monitoring process(es) at each access point to the dial-up device, where technically feasible.

**R3.2.** Where technically feasible, the security monitoring process(es) shall detect and alert for attempts at or actual unauthorized accesses. These alerts shall provide for appropriate notification to designated response personnel. Where alerting is not technically feasible, the Responsible Entity shall review or otherwise assess access logs for attempts at or actual unauthorized accesses at least every ninety calendar days.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-005-3**

Requirement and Sub-requirements:

**R4. Cyber Vulnerability Assessment** — The Responsible Entity shall perform a cyber vulnerability assessment of the electronic access points to the Electronic Security Perimeter(s) at least annually. The vulnerability assessment shall include, at a minimum, the following:

- R4.1.** A document identifying the vulnerability assessment process;
- R4.2.** A review to verify that only ports and services required for operations at these access points are enabled;
- R4.3.** The discovery of all access points to the Electronic Security Perimeter;
- R4.4.** A review of controls for default accounts, passwords, and network management community strings;
- R4.5.** Documentation of the results of the assessment, the action plan to remediate or mitigate vulnerabilities identified in the assessment, and the execution status of that action plan.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**



**Schedule CIP-006-3**

Requirement and Sub-requirements:

**R1. Physical Security Plan** — The Responsible Entity shall document, implement, and maintain a physical security plan, approved by the senior manager or delegate(s) that shall address, at a minimum, the following:

**R1.1.** All Cyber Assets within an Electronic Security Perimeter shall reside within an identified Physical Security Perimeter. Where a completely enclosed ("six-wall") border cannot be established, the Responsible Entity shall deploy and document alternative measures to control physical access to such Cyber Assets.

**R1.2.** Identification of all physical access points through each Physical Security Perimeter and measures to control entry at those access points.

**R1.3.** Processes, tools, and procedures to monitor physical access to the perimeter(s).

**R1.4.** Appropriate use of physical access controls as described in Requirement R4 including visitor pass management, response to loss, and prohibition of inappropriate use of physical access controls.

**R1.5.** Review of access authorization requests and revocation of access authorization, in accordance with CIP-004-3 Requirement R4.

**R1.6.** A visitor control program for visitors (personnel without authorized unescorted access to a Physical Security Perimeter), containing at a minimum the following:

**R1.6.1.** Logs (manual or automated) to document the entry and exit of visitors, including the date and time, to and from Physical Security Perimeters.

**R1.6.2.** Continuous escorted access of visitors within the Physical Security Perimeter.

**R1.7.** Update of the physical security plan within thirty calendar days of the completion of any physical security system redesign or reconfiguration, including, but not limited to, addition or removal of access points through the Physical Security Perimeter, physical access controls, monitoring controls, or logging controls.

**R1.8.** Annual review of the physical security plan.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**Schedule CIP-006-3**

Requirement and Sub-requirements:

**R2.** Protection of Physical Access Control Systems — Cyber Assets that authorize and/or log access to the Physical Security Perimeter(s), exclusive of hardware at the Physical Security Perimeter access point such as electronic lock control mechanisms and badge readers, shall:  
**R2.1.** Be protected from unauthorized physical access.  
**R2.2.** Be afforded the protective measures specified in Standard CIP-003-3; Standard CIP-004-3 Requirement R3; Standard CIP-005-3 Requirements R2 and R3; Standard CIP-006-3 Requirements R4 and R5; Standard CIP-007-3; Standard CIP-008-3; and Standard CIP-009-3.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

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**Schedule CIP-006-3**

Requirement and Sub-requirements:

**R3.** Protection of Electronic Access Control Systems – Cyber Assets used in the access control and/or monitoring of the Electronic Security Perimeter(s) shall reside within an identified Physical Security Perimeter.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-006-3**

Requirement and Sub-requirements:

**R4. Physical Access Controls** — The responsible Entity shall document and implement the operational and procedural controls to manage physical access at all access points to the Physical Security Perimeter(s) twenty-four hours a day, seven days a week. The Responsible Entity shall implement one or more of the following physical access methods:

- Card Key: A means of electronic access where the access rights of the card holder are predefined in a computer database. Access rights may differ from one perimeter to another.
- Special Locks: These include, but are not limited to, locks with "restricted key" systems, magnetic locks that can be operated remotely, and "man-trap" systems.
- Security Personnel: Personnel responsible for controlling physical access who may reside on-site or at a monitoring station.
- Other Authentication Devices: Biometric, keypad, token, or other equivalent devices that control physical access to the Critical Cyber Assets.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**Schedule CIP-006-3**

Requirement and Sub-requirements:

**R5. Monitoring Physical Access** – The Responsible Entity shall document and implement the technical and procedural controls for monitoring physical access at all access points to the Physical Security Perimeter(s) twenty-four hours a day, seven days a week. Unauthorized access attempts shall be reviewed immediately and handled in accordance with the procedures specified in Requirement CIP-008-3. One or more of the following monitoring methods shall be used:

- Alarm Systems: Systems that alarm to indicate a door, gate or window has been opened without authorization. These alarms must provide for immediate notification to personnel responsible for response.
- Human Observation of Access Points: Monitoring of physical access points by authorized personnel as specified in Requirement R4.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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**Schedule CIP-006-3**

**Requirement and Sub-requirements:**

**R6. Logging Physical Access** – Logging shall record sufficient information to uniquely identify individuals and the time of access twenty-four hours a day, seven days a week. The Responsible Entity shall implement and document the technical and procedural mechanisms for logging physical entry at all access points to the Physical Security Perimeter(s) using one or more of the following logging methods or their equivalent:

- Computerized Logging: Electronic logs produced by the Responsible Entity's selected access control and monitoring method.
- Video Recording: Electronic capture of video images of sufficient quality to determine identity.
- Manual Logging: A log book or sign-in sheet, or other record of physical access maintained by security or other personnel authorized to control and monitor physical access as specified in Requirement R4.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

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### Schedule CIP-006-3

#### Requirement and Sub-requirements:

**R7. Access Log Retention** – The Responsible Entity shall retain physical access logs for at least ninety calendar days. Logs related to reportable incidents shall be kept in accordance with the requirements of Standard CIP-008-3.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

**Schedule CIP-006-3**

Requirement and Sub-requirements:

**R8. Maintenance and Testing** — The Responsible Entity shall implement a maintenance and testing program to ensure that all physical security systems under Requirements R4, R5, and R6 function properly. The program must include, at a minimum, the following:  
**R8.1.** Testing and maintenance of all physical security mechanisms on a cycle no longer than three years.  
**R8.2.** Retention of testing and maintenance records for the cycle determined by the Responsible Entity in Requirement R8.1.  
**R8.3.** Retention of outage records regarding access controls, logging, and monitoring for a minimum of one calendar year.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

[Empty box for delegated tasks]

W/S [Signature] CAISO Date 2/28/11  
Authorized Representative

[Signature] TE Date 2-17-11  
Authorized Representative

### Schedule CIP-007-3

#### Requirement and Sub-requirements:

**R1. Test Procedures** — The Responsible Entity shall ensure that new Cyber Assets and significant changes to existing Cyber Assets within the Electronic Security Perimeter do not adversely affect existing cyber security controls. For purposes of Standard CIP-007-3, a significant change shall, at a minimum, include implementation of security patches, cumulative service packs, vendor releases, and version upgrades of operating systems, applications, database platforms, or other third-party software or firmware.

**R1.1.** The Responsible Entity shall create, implement, and maintain cyber security test procedures in a manner that minimizes adverse effects on the production system or its operation.

**R1.2.** The Responsible Entity shall document that testing is performed in a manner that reflects the production environment.

**R1.3.** The Responsible Entity shall document test results.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

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### Schedule CIP-007-3

#### Requirement and Sub-requirements:

**R2. Ports and Services** — The Responsible Entity shall establish, document and implement a process to ensure that only those ports and services required for normal and emergency operations are enabled.

**R2.1.** The Responsible Entity shall enable only those ports and services required for normal and emergency operations.

**R2.2.** The Responsible Entity shall disable other ports and services, including those used for testing purposes, prior to production use of all Cyber Assets inside the Electronic Security Perimeter(s).

**R2.3.** In the case where unused ports and services cannot be disabled due to technical limitations, the Responsible Entity shall document compensating measure(s) applied to mitigate risk exposure.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

**Schedule CIP-007-3**

Requirement and Sub-requirements:

**R3. Security Patch Management** — The Responsible Entity, either separately or as a component of the documented configuration management process specified in CIP-003-3 Requirement R6, shall establish, document and implement a security patch management program for tracking, evaluating, testing, and installing applicable cyber security software patches for all Cyber Assets within the Electronic Security Perimeter(s).

**R3.1.** The Responsible Entity shall document the assessment of security patches and security upgrades for applicability within thirty calendar days of availability of the patches or upgrades.

**R3.2.** The Responsible Entity shall document the implementation of security patches. In any case where the patch is not installed, the Responsible Entity shall document compensating measure(s) applied to mitigate risk exposure.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-007-3**

**Requirement and Sub-requirements:**

**R4. Malicious Software Prevention** — The Responsible Entity shall use anti-virus software and other malicious software (“malware”) prevention tools, where technically feasible, to detect, prevent, deter, and mitigate the introduction, exposure, and propagation of malware on all Cyber Assets within the Electronic Security Perimeter(s).

**R4.1.** The Responsible Entity shall document and implement anti-virus and malware prevention tools. In the case where anti-virus software and malware prevention tools are not installed, the Responsible Entity shall document compensating measure(s) applied to mitigate risk exposure.

**R4.2.** The Responsible Entity shall document and implement a process for the update of anti-virus and malware prevention “signatures.” The process must address testing and installing the signatures.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-007-3****Requirement and Sub-requirements:**

**R5.** Account Management — The Responsible Entity shall establish, implement, and document technical and procedural controls that enforce access authentication of, and accountability for, all user activity, and that minimize the risk of unauthorized system access.

**R5.1.** The Responsible Entity shall ensure that individual and shared system accounts and authorized access permissions are consistent with the concept of “need to know” with respect to work functions performed.

**R5.1.1.** The Responsible Entity shall ensure that user accounts are implemented as approved by designated personnel. Refer to Standard CIP-003-3 Requirement R5.

**R5.1.2.** The Responsible Entity shall establish methods, processes, and procedures that generate logs of sufficient detail to create historical audit trails of individual user account access activity for a minimum of ninety days.

**R5.1.3.** The Responsible Entity shall review, at least annually, user accounts to verify access privileges are in accordance with Standard CIP-003-3 Requirement R5 and Standard CIP-004-3 Requirement R4.

**R5.2.** The Responsible Entity shall implement a policy to minimize and manage the scope and acceptable use of administrator, shared, and other generic account privileges including factory default accounts.

**R5.2.1.** The policy shall include the removal, disabling, or renaming of such accounts where possible. For such accounts that must remain enabled, passwords shall be changed prior to putting any system into service.

**R5.2.2.** The Responsible Entity shall identify those individuals with access to shared accounts.

**R5.2.3.** Where such accounts must be shared, the Responsible Entity shall have a policy for managing the use of such accounts that limits access to only those with authorization, an audit trail of the account use (automated or manual), and steps for securing the account in the event of personnel changes (for example, change in assignment or termination).

**R5.3.** At a minimum, the Responsible Entity shall require and use passwords, subject to the following, as technically feasible:

**R5.3.1.** Each password shall be a minimum of six characters.

**R5.3.2.** Each password shall consist of a combination of alpha, numeric, and “special” characters.

**R5.3.3.** Each password shall be changed at least annually, or more frequently based on risk.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

CAISO

TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-007-3**

Requirement and Sub-requirements:

**R6. Security Status Monitoring** — The Responsible Entity shall ensure that all Cyber Assets within the Electronic Security Perimeter, as technically feasible, implement automated tools or organizational process controls to monitor system events that are related to cyber security.

**R6.1.** The Responsible Entity shall implement and document the organizational processes and technical and procedural mechanisms for monitoring for security events on all Cyber Assets within the Electronic Security Perimeter.

**R6.2.** The security monitoring controls shall issue automated or manual alerts for detected Cyber Security Incidents.

**R6.3.** The Responsible Entity shall maintain logs of system events related to cyber security, where technically feasible, to support incident response as required in Standard CIP-008-3.

**R6.4.** The Responsible Entity shall retain all logs specified in Requirement R6 for ninety calendar days.

**R6.5.** The Responsible Entity shall review logs of system events related to cyber security and maintain records documenting review of logs.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-007-3**

Requirement and Sub-requirements:

**R7.** Disposal or Redeployment — The Responsible Entity shall establish and implement formal methods, processes, and procedures for disposal or redeployment of Cyber Assets within the Electronic Security Perimeter(s) as identified and documented in Standard CIP-005-3.

**R7.1.** Prior to the disposal of such assets, the Responsible Entity shall destroy or erase the data storage media to prevent unauthorized retrieval of sensitive cyber security or reliability data.

**R7.2.** Prior to redeployment of such assets, the Responsible Entity shall, at a minimum, erase the data storage media to prevent unauthorized retrieval of sensitive cyber security or reliability data.

**R7.3.** The Responsible Entity shall maintain records that such assets were disposed of or redeployed in accordance with documented procedures.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**Schedule CIP-007-3**

Requirement and Sub-requirements:

**R8. Cyber Vulnerability Assessment** — The Responsible Entity shall perform a cyber vulnerability assessment of all Cyber Assets within the Electronic Security Perimeter at least annually. The vulnerability assessment shall include, at a minimum, the following:

- R8.1.** A document identifying the vulnerability assessment process;
- R8.2.** A review to verify that only ports and services required for operation of the Cyber Assets within the Electronic Security Perimeter are enabled;
- R8.3.** A review of controls for default accounts; and,
- R8.4.** Documentation of the results of the assessment, the action plan to remediate or mitigate vulnerabilities identified in the assessment, and the execution status of that action plan.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule CIP-007-3**

Requirement and Sub-requirements:

**R9. Documentation Review and Maintenance** — The Responsible Entity shall review and update the documentation specified in Standard CIP-007-3 at least annually. Changes resulting from modifications to the systems or controls shall be documented within thirty calendar days of the change being completed.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

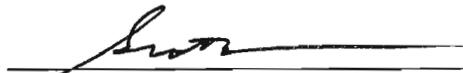
The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

   
\_\_\_\_\_  
CAISO  
Authorized Representative

2/28/11  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

2-17-11  
Date

**Schedule CIP-008-3**

Requirement and Sub-requirements:

**R1. Cyber Security Incident Response Plan** — The Responsible Entity shall develop and maintain a Cyber Security Incident response plan and implement the plan in response to Cyber Security Incidents. The Cyber Security Incident response plan shall address, at a minimum, the following:

- R1.1.** Procedures to characterize and classify events as reportable Cyber Security Incidents.
- R1.2.** Response actions, including roles and responsibilities of Cyber Security Incident response teams, Cyber Security Incident handling procedures, and communication plans.
- R1.3.** Process for reporting Cyber Security Incidents to the Electricity Sector Information Sharing and Analysis Center (ES-ISAC). The Responsible Entity must ensure that all reportable Cyber Security Incidents are reported to the ES-ISAC either directly or through an intermediary.
- R1.4.** Process for updating the Cyber Security Incident response plan within thirty calendar days of any changes.
- R1.5.** Process for ensuring that the Cyber Security Incident response plan is reviewed at least annually.
- R1.6.** Process for ensuring the Cyber Security Incident response plan is tested at least annually. A test of the Cyber Security Incident response plan can range from a paper drill, to a full operational exercise, to the response to an actual incident.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**Schedule CIP-008-3**

Requirement and Sub-requirements:

**R2. Cyber Security Incident Documentation** — The Responsible Entity shall keep relevant documentation related to Cyber Security Incidents reportable per Requirement R1.1 for three calendar years.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

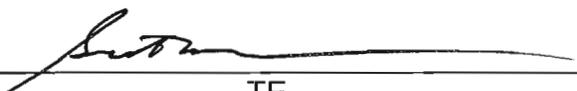
The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

[Empty box for delegated tasks]

*JMS*  2/28/11  
CAISO  
Authorized Representative Date

 2-17-11  
TE  
Authorized Representative Date

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### Schedule CIP-009-3

#### Requirement and Sub-requirements:

**R1. Recovery Plans** — The Responsible Entity shall create and annually review recovery plan(s) for Critical Cyber Assets. The recovery plan(s) shall address at a minimum the following:  
**R1.1.** Specify the required actions in response to events or conditions of varying duration and severity that would activate the recovery plan(s).  
**R1.2.** Define the roles and responsibilities of responders.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

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### Schedule CIP-009-3

#### Requirement and Sub-requirements:

**R2. Exercises** — The recovery plan(s) shall be exercised at least annually. An exercise of the recovery plan(s) can range from a paper drill, to a full operational exercise, to recovery from an actual incident.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

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### Schedule CIP-009-3

Requirement and Sub-requirements:

**R3. Change Control** — Recovery plan(s) shall be updated to reflect any changes or lessons learned as a result of an exercise or the recovery from an actual incident. Updates shall be communicated to personnel responsible for the activation and implementation of the recovery plan(s) within thirty calendar days of the change being completed.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

CAISO

TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

CAISO

TE

None for this standard

#### DELEGATED TASKS

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**Schedule CIP-009-3**

Requirement and Sub-requirements:

**R4. Backup and Restore** — The recovery plan(s) shall include processes and procedures for the backup and storage of information required to successfully restore Critical Cyber Assets. For example, backups may include spare electronic components or equipment, written documentation of configuration settings, tape backup, etc.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements for its assets is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS



**COM-001-1.1**

Requirement and Sub-requirements:

R1. Each Reliability Coordinator, Transmission Operator and Balancing Authority shall provide adequate and reliable telecommunications facilities for the exchange of Interconnection and operating information:

R1.1. Internally

R1.2. Between the Reliability Coordinator and its Transmission Operators and Balancing Authorities

R1.3. With other Reliability Coordinators, Transmission Operators, and Balancing Authorities as necessary to maintain reliability

R1.4. Where applicable, these facilities shall be redundant and diversely routed

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

CAISO

TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

CAISO

TE

None for this standard

DELEGATED TASKS

The TE will have adequate and reliable telecommunications facilities as required in R1.1 and R1.4.

**COM-001-1.1**

Requirement and Sub-requirements:

R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall manage, alarm, test and/or actively monitor vital telecommunications facilities. Special attention shall be given to emergency telecommunications facilities and equipment not used for routine communications.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

The TE shall manage alarm, test and/or actively monitor their vital telecommunications facilities as required by R2.

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**COM-001-1.1**

Requirement and Sub-requirements:

R3. Each Reliability Coordinator, Transmission Operator and Balancing Authority shall provide a means to coordinate telecommunications among their respective areas. This coordination shall include the ability to investigate and recommend solutions to telecommunications problems within the area and with other areas.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall provide a means to coordinate telecommunications among their respective areas as required by R3.

**COM-001-1.1**

Requirement and Sub-requirements:

R4. Unless agreed to otherwise, each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use English as the language for **all** communications between and among operating personnel responsible for the **real-time** generation control and operation of the interconnected Bulk Electric System. Transmission Operators and Balancing Authorities may use an alternate language for internal operations.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

Unless agreed to otherwise, the TE shall use English as the language for all communications between and among operating personnel responsible for the real-time generation control and operation of the interconnected Bulk Electric System as required by R4.

**COM-001-1.1**

Requirement and Sub-requirements:

R5. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall have written operating instructions and procedures to enable continued operation of the system during the loss of telecommunications facilities.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

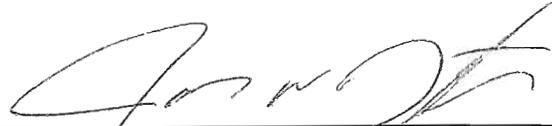
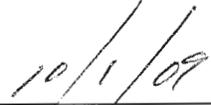
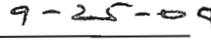
**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

The TE shall have written operating instructions and procedures to enable continued operation of their system during the loss of telecommunications facilities as required by R5.

 _____ CAISO Authorized Representative	 _____ Date
 _____ TE Authorized Representative	 _____ Date

**Schedule COM-002-2**

Requirement and Sub-requirements:

R1. Each Transmission Operator, Balancing Authority, and Generator Operator shall have communications (voice and data links) with appropriate Reliability Coordinators, Balancing Authorities, and Transmission Operators. Such communications shall be staffed and available for addressing a real-time emergency condition.

R.1.1. Each Balancing Authority and Transmission Operator shall notify its Reliability Coordinator, and all other potentially affected Balancing Authorities and Transmission Operators through predetermined communication paths of any condition that could threaten the reliability of its area or when firm load shedding is anticipated.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will have communications as required in R1.  
The TE will notify the CAISO for conditions as required in R1.1.

---

Schedule COM-002-2

Requirement and Sub-requirements:

R2. Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall issue directives in a clear, concise, and definitive manner; shall ensure the recipient of the directive repeats the information back correctly; and shall acknowledge the response as correct or repeat the original statement to resolve any misunderstandings.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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### Schedule EOP-001-0

#### Requirement and Sub-requirements:

R2. The Transmission Operator shall have an emergency load reduction plan for all identified IROLs. The plan shall include the details on how the Transmission Operator will implement load reduction in sufficient amount and time to mitigate the IROL violation before system separation or collapse would occur. The load reduction plan must be capable of being implemented within 30 minutes.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

The TE will have an emergency load reduction plan for its transmission area to be implemented as directed by the CAISO. The TE's plan will not be specific to IROLs, but the CAISO may choose to utilize the TE's plan to help in meeting its responsibility under this requirement.

Schedule EOP-001-0

Requirement and Sub-requirements:

R3. Each Transmission Operator and Balancing Authority shall:  
R3.1. Develop, maintain, and implement a set of plans to mitigate operating emergencies for insufficient generating capacity.  
R3.2. Develop, maintain, and implement a set of plans to mitigate operating emergencies on the transmission system.  
R3.3. Develop, maintain, and implement a set of plans for load shedding.  
R3.4. Develop, maintain, and implement a set of plans for system restoration.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will have emergency operating plans for R3.2, R3.3, R3.4 for its transmission system.

Schedule EOP-001-0

Requirement and Sub-requirements:

R4. Each Transmission Operator and Balancing Authority shall have emergency plans that will enable it to mitigate operating emergencies. At a minimum, Transmission Operator and Balancing Authority emergency plans shall include:

R4.1. Communications protocols to be used during emergencies.

R4.2. A list of controlling actions to resolve the emergency. Load reduction, in sufficient quantity to resolve the emergency within NERC-established timelines, shall be one of the controlling actions.

R4.3. The tasks to be coordinated with and among adjacent Transmission Operators and Balancing Authorities.

R4.4. Staffing levels for the emergency.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will have emergency plans that will enable it to mitigate operating emergencies for its system that comply with R4 and its sub-requirements.

---

Schedule EOP-001-0

Requirement and Sub-requirements:

R5. Each Transmission Operator and Balancing Authority shall include the applicable elements in Attachment 1-EOP-001-0 when developing an emergency plan.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE emergency plans shall include the following elements as applicable from Attachment 1-EOP-001-0 when developing their emergency plan:

4. System Energy Use
5. Public Appeals
6. Load management
8. Appeals to customers to use alternate fuels
9. Interruptible and curtailable loads
13. Load Curtailment

Schedule EOP-001-0

Requirement and Sub-requirements:

R6. The Transmission Operator and Balancing Authority shall annually review and update each emergency plan. The Transmission Operator and Balancing Authority shall provide a copy of its updated emergency plans to its Reliability Coordinator and to neighboring Transmission Operators and Balancing Authorities.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall annually review and update each emergency plan and shall provide a copy of its updated emergency plans to its Reliability Coordinator and to neighboring Transmission Operators and Balancing Authorities as required by R6.

Schedule EOP-001-0

Requirement and Sub-requirements:

R7. The Transmission Operator and Balancing Authority shall coordinate its emergency plans with other Transmission Operators and Balancing Authorities as appropriate. This coordination includes the following steps, as applicable:  
R7.1. The Transmission Operator and Balancing Authority shall establish and maintain reliable communications between interconnected systems.  
R7.2. The Transmission Operator and Balancing Authority shall arrange new interchange agreements to provide for emergency capacity or energy transfers if existing agreements cannot be used.  
R7.3. The Transmission Operator and Balancing Authority shall coordinate transmission and generator maintenance schedules to maximize capacity or conserve the fuel in short supply. (This includes water for hydro generators.)  
R7.4. The Transmission Operator and Balancing Authority shall arrange deliveries of electrical energy or fuel from remote systems through normal operating channels.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE shall coordinate its emergency plans as required in R7.1.

---

### Schedule EOP-003-1

Requirement and Sub-requirements:

R1. After taking all other remedial steps, a Transmission Operator or Balancing Authority operating with insufficient generation or transmission capacity shall shed customer load rather than risk an uncontrolled failure of components or cascading outages of the Interconnection.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

The TE will take action unilaterally to initiate load shedding to protect its transmission system, employees, and the public if there is insufficient time to coordinate with the CAISO.

---

Schedule EOP-003-1

Requirement and Sub-requirements:

R2. Each Transmission Operator and Balancing Authority shall establish plans for automatic load shedding for underfrequency or undervoltage conditions.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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Schedule EOP-003-1

Requirement and Sub-requirements:

R3. Each Transmission Operator and Balancing Authority shall coordinate load shedding plans among other interconnected Transmission Operators and Balancing Authorities.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE's automatic load shedding plans shall comply with the WECC off Nominal Frequency Plan for underfrequency conditions. The TE shall coordinate other automatic load shedding plans with other interconnected Transmission Operators and Balancing Authorities as applicable.

---

Schedule EOP-003-1

Requirement and Sub-requirements:

R4. A Transmission Operator or Balancing Authority shall consider one or more of these factors in designing an automatic load shedding scheme: frequency, rate of frequency decay, voltage level, rate of voltage decay, or power flow levels.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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Schedule EOP-003-1

Requirement and Sub-requirements:

R5. A Transmission Operator or Balancing Authority shall implement load shedding in steps established to minimize the risk of further uncontrolled separation, loss of generation, or system shutdown.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall implement their automatic load shedding in steps as required by R5 for their system.

---

Schedule EOP-003-1

Requirement and Sub-requirements:

R6. After a Transmission Operator or Balancing Authority Area separates from the Interconnection, if there is insufficient generating capacity to restore system frequency following automatic underfrequency load shedding, the Transmission Operator or Balancing Authority shall shed additional load.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

In an islanded situation, where the CAISO is not directly coordinating restoration, the TE will act to restore frequency in its island, coordinating with other transmission entities in the island.

---

Schedule EOP-003-1

Requirement and Sub-requirements:

R7. The Transmission Operator and Balancing Authority shall coordinate automatic load shedding throughout their areas with underfrequency isolation of generating units, tripping of shunt capacitors, and other automatic actions that will occur under abnormal frequency, voltage, or power flow conditions.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE.

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

Schedule EOP-003-1

Requirement and Sub-requirements:

R8. Each Transmission Operator or Balancing Authority shall have plans for operator controlled manual load shedding to respond to real-time emergencies. The Transmission Operator or Balancing Authority shall be capable of implementing the load shedding in a timeframe adequate for responding to the emergency.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall have plans for operator controlled manual load shedding to respond to real-time emergencies for its system as required by R8.

Requirement and Sub-requirements:

R2. A Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator or Load Serving Entity shall promptly analyze Bulk Electric System disturbances on its system or facilities.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall promptly analyze Bulk Electric System disturbances on its system or facilities.

Requirement and Sub-requirements:

R3. A Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator or Load Serving Entity experiencing a reportable incident shall provide a preliminary written report to its Regional Reliability Organization and NERC.

R3.1. The affected Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator or Load Serving Entity shall submit within 24 hours of the disturbance or unusual occurrence either a copy of the report submitted to DOE, or, if no DOE report is required, a copy of the NERC Interconnection Reliability Operating Limit and Preliminary Disturbance Report form. Events that are not identified until some time after they occur shall be reported within 24 hours of being recognized.

R3.2. Applicable reporting forms are provided in Attachments 022-1 and 022-2.

R3.3. Under certain adverse conditions, e.g., severe weather, it may not be possible to assess the damage caused by a disturbance and issue a written Interconnection Reliability Operating Limit and Preliminary Disturbance Report within 24 hours. In such cases, the affected Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, or Load Serving Entity shall promptly notify its Regional Reliability Organization(s) and NERC, and verbally provide as much information as is available at that time. The affected Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, or Load Serving Entity shall then provide timely, periodic verbal updates until adequate information is available to issue a written Preliminary Disturbance Report.

R3.4. If, in the judgment of the Regional Reliability Organization, after consultation with the Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, or Load Serving Entity in which a disturbance occurred, a final report is required, the affected Reliability Coordinator, Balancing Authority, Transmission Operator, Generator Operator, or Load Serving Entity shall prepare this report within 60 days. As a minimum, the final report shall have a discussion of the events and its cause, the conclusions reached, and recommendations to prevent recurrence of this type of event. The report shall be subject to Regional Reliability Organization approval.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

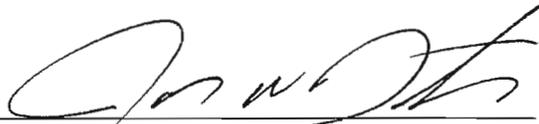
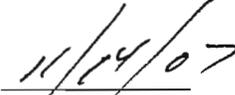
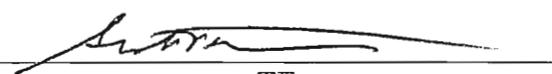
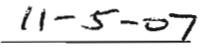
The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE

None for this standard

DELEGATED TASKS

For those NERC reportable incidents requiring reports from a Transmission Operator, the TE shall either directly file the report with NERC and WECC, or file a joint report with the CAISO, for those items marked with the reporting responsibility of PTO and as delineated by the notes in the CAISO N-703A DOE, NERC and WECC Significant Event Reporting Requirements Version No. 1.4 dated 9/4/07. If the TE individually files a report, the TE shall also submit a copy of the report to the CAISO.

 CAISO Authorized Representative	 Date
 TE Authorized Representative	 Date

---

**Schedule EOP-005-1**

Requirement and Sub-requirements:

R1. Each Transmission Operator shall have a restoration plan to reestablish its electric system in a stable and orderly manner in the event of a partial or total shutdown of its system, including necessary operating instructions and procedures to cover emergency conditions, and the loss of vital telecommunications channels. Each Transmission Operator shall include the applicable elements listed in Attachment 1-EOP-005 in developing a restoration plan.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

The TE will have a system restoration plan for its transmission system.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R2. Each Transmission Operator shall review and update its restoration plan at least annually and whenever it makes changes in the power system network, and shall correct deficiencies found during the simulated restoration exercises.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will at least annually review and update its transmission system restoration plan.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R3. Each Transmission Operator shall develop restoration plans with a priority of restoring the integrity of the Interconnection.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE's transmission system restoration plan will include a priority of restoring the integrity of the Interconnection.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R4. Each Transmission Operator shall coordinate its restoration plans with the Generator Owners and Balancing Authorities within its area, its Reliability Coordinator, and neighboring Transmission Operators and Balancing Authorities.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will coordinate its restoration plans with the CAISO and Generator Owners in its transmission system area with CAISO involvement as necessary.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R5. Each Transmission Operator and Balancing Authority shall periodically test its telecommunication facilities needed to implement the restoration plan.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will periodically test its telecommunications facilities needed to implement its restoration plan.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R6. Each Transmission Operator and Balancing Authority shall train its operating personnel in the implementation of the restoration plan. Such training shall include simulated exercises, if practicable.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will train its operating personnel per requirement R6.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R7. Each Transmission Operator and Balancing Authority shall verify the restoration procedure by actual testing or by simulation.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will verify its restoration plan per requirement R7.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R8. Each Transmission Operator shall verify that the number, size, availability, and location of system blackstart generating units are sufficient to meet Regional Reliability Organization restoration plan requirements for the Transmission Operator's area.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R9. The Transmission Operator shall document the Cranking Paths, including initial switching requirements, between each blackstart generating unit and the unit(s) to be started and shall provide this documentation for review by the Regional Reliability Organization upon request. Such documentation may include Cranking Path diagrams.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will document its detailed Cranking Paths for its transmission system and provide the information to the CAISO.

---

Schedule EOP-005-1

Requirement and Sub-requirements:

R10. The Transmission Operator shall demonstrate, through simulation or testing, that the blackstart generating units in its restoration plan can perform their intended functions as required in the regional restoration plan.  
R10.1. The Transmission Operator shall perform this simulation or testing at least once every five years.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

Schedule EOP-005-1

Requirement and Sub-requirements:

R11. Following a disturbance in which one or more areas of the Bulk Electric System become isolated or blacked out, the affected Transmission Operators and Balancing Authorities shall begin immediately to return the Bulk Electric System to normal.

R11.1. The affected Transmission Operators and Balancing Authorities shall work in conjunction with their Reliability Coordinator(s) to determine the extent and condition of the isolated area(s).

R11.2. The affected Transmission Operators and Balancing Authorities shall take the necessary actions to restore Bulk Electric System frequency to normal, including adjusting generation, placing additional generators on line, or load shedding.

R11.3. The affected Balancing Authorities, working with their Reliability Coordinator(s), shall immediately review the Interchange Schedules between those Balancing Authority Areas or fragments of those Balancing Authority Areas within the separated area and make adjustments as needed to facilitate the restoration. The affected Balancing Authorities shall make all attempts to maintain the adjusted Interchange Schedules, whether generation control is manual or automatic.

R11.4. The affected Transmission Operators shall give high priority to restoration of off-site power to nuclear stations.

R11.5. The affected Transmission Operators may resynchronize the isolated area(s) with the surrounding area(s) when the following conditions are met:

R11.5.1. Voltage, frequency, and phase angle permit.

R11.5.2. The size of the area being reconnected and the capacity of the transmission lines effecting the reconnection and the number of synchronizing points across the system are considered.

R11.5.3. Reliability Coordinator(s) and adjacent areas are notified and Reliability Coordinator approval is given.

R11.5.4. Load is shed in neighboring areas, if required, to permit successful interconnected system restoration.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE

---

 None for this standard

## DELEGATED TASKS

In the event of a blackout or islanding condition, the TE will perform its transmission system restoration as coordinated by the CAISO. (This does not include R11.3 which is only applicable to a BA.)

**Schedule EOP-008-0**

Requirement and Sub-requirements:

R1. Each Reliability Coordinator, Transmission Operator and Balancing Authority shall have a plan to continue reliability operations in the event its control center becomes inoperable. The contingency plan must meet the following requirements:

R1.1. The contingency plan shall not rely on data or voice communication from the primary control facility to be viable.

R1.2. The plan shall include procedures and responsibilities for providing basic tie line control and procedures and for maintaining the status of all inter-area schedules, such that there is an hourly accounting of all schedules.

R1.3. The contingency plan must address monitoring and control of critical transmission facilities, generation control, voltage control, time and frequency control, control of critical substation devices, and logging of significant power system events. The plan shall list the critical facilities.

R1.4. The plan shall include procedures and responsibilities for maintaining basic voice communication capabilities with other areas.

R1.5. The plan shall include procedures and responsibilities for conducting periodic tests, at least annually, to ensure viability of the plan.

R1.6. The plan shall include procedures and responsibilities for providing annual training to ensure that operating personnel are able to implement the contingency plans.

R1.7. The plan shall be reviewed and updated annually.

R1.8. Interim provisions must be included if it is expected to take more than one hour to implement the contingency plan for loss of primary control facility.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS



The TE will develop plans for the loss of its control center(s) that meet R1 and its sub-requirements, excluding requirement R1.2 and those portions R1.3 that address generation control, time and frequency control.

**FAC-014-2**

Requirement and Sub-requirements:

**R2.** The Transmission Operator shall establish SOLs (as directed by its Reliability Coordinator) for its portion of the Reliability Coordinator Area that are consistent with its Reliability Coordinator's SOL Methodology.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall establish, in coordination with the CAISO as necessary, SOLs (as directed by its Reliability Coordinator) for its transmission system that are consistent with its Reliability Coordinator's SOL Methodology.

FAC-014-2

Requirement and Sub-requirements:

**R5.2** The Transmission Operator shall provide any SOLs it developed to its Reliability Coordinator and to the Transmission Service Providers that share its portion of the Reliability Coordinator Area.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

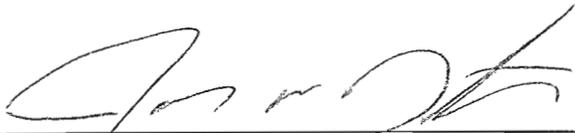
SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

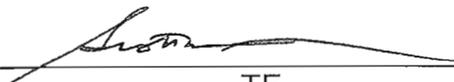
- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will provide any SOLs it developed for the TE transmission system to the CAISO.

  
\_\_\_\_\_  
CAISO  
Authorized Representative

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

  
\_\_\_\_\_  
Date

Requirement and Sub-requirements:

R1. At such time as the reliability event allows for the reloading of the transaction, the entity that initiated the curtailment shall release the limit on the Interchange Transaction tag to allow reloading the transaction and shall communicate the release of the limit to the Sink Balancing Authority.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

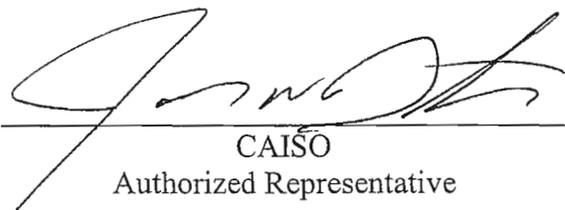
SUPPORTING ENTITY

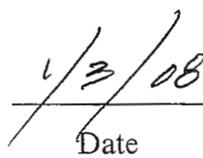
The entity responsible for performing the Delegated Tasks set forth below:

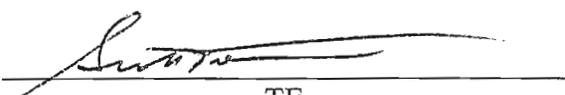
- CAISO
- TE
- None for this standard

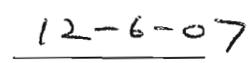
DELEGATED TASKS

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CAISO  
Authorized Representative

  
Date

  
TE  
Authorized Representative

  
Date

Requirement and Sub-requirements:

R1. At such time as the reliability event allows for the reloading of the transaction, the entity that initiated the curtailment shall release the limit on the Interchange Transaction tag to allow reloading the transaction and shall communicate the release of the limit to the Sink Balancing Authority.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

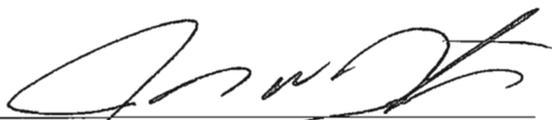
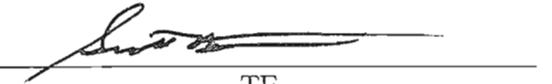
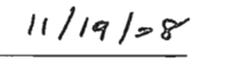
- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

 CAISO Authorized Representative	 Date
 TE Authorized Representative	 Date

**Schedule IRO-001-1.1**

Requirement and Sub-requirements:

R8. Transmission Operators, Balancing Authorities, Generator Operators, Transmission Service Providers, Load-Serving Entities, and Purchasing-Selling Entities shall comply with Reliability Coordinator directives unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances, the Transmission Operator, Balancing Authority, Generator Operator, Transmission Service Provider, Load-Serving Entity, or Purchasing-Selling Entity shall immediately inform the Reliability Coordinator of the inability to perform the directive so that the Reliability Coordinator may implement alternate remedial actions.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

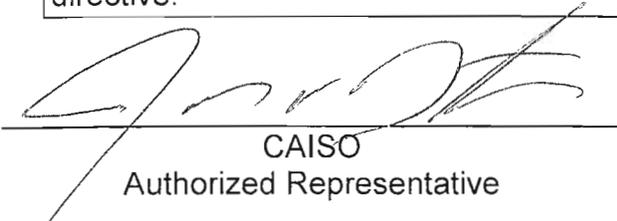
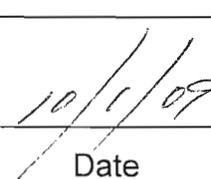
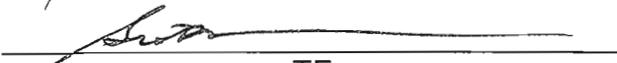
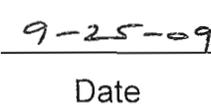
**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

If the WECC RC issues a directive to the TE, the TE will follow the directive unless such actions would violate safety, equipment, or regulatory or statutory requirements. Under these circumstances, the TE will inform the WECC RC of its inability to perform the directive.

 CAISO Authorized Representative	 Date
 TE Authorized Representative	 Date



**Schedule IRO-004-2**

Requirement and Sub-requirements:

R1. Each Transmission Operator, Balancing Authority, and Transmission Service Provider shall comply with the directives of its Reliability Coordinator based on the next day assessments in the same manner in which it would comply during real time operating events.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall implement applicable instructions provided to the TE by the CAISO to meet the RC directives.

Nancy A. Hawick  
CAISO  
Authorized Representative

9-30-11  
Date

[Signature]  
TE  
Authorized Representative

9-29-11  
Date

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**Schedule IRO-005-3**

**Requirement and Sub-requirements:**

**R5.** Each Reliability Coordinator shall monitor system frequency and its Balancing Authorities' performance and direct any necessary rebalancing to return to CPS and DCS compliance. The Transmission Operators and Balancing Authorities shall utilize all resources, including firm load shedding, as directed by its Reliability Coordinator to relieve the emergent condition.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall utilize all resources, including firm load shedding, as directed by the CAISO to relieve the emergent condition.

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**Schedule IRO-005-3****Requirement and Sub-requirements:**

**R9.** Whenever a Special Protection System that may have an inter-Balancing Authority, or inter-Transmission Operator impact (e.g., could potentially affect transmission flows resulting in a SOL or IROL violation) is armed, the Reliability Coordinators shall be aware of the impact of the operation of that Special Protection System on inter-area flows. The Transmission Operator shall immediately inform the Reliability Coordinator of the status of the Special Protection System including any degradation or potential failure to operate as expected.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE will inform the CAISO of any Special Protection System failure or degradation in the TE's system.



**Schedule IRO-010-1**

Requirement and Sub-requirements:

**R3.** Each Balancing Authority, Generator Owner, Generator Operator, Interchange Authority, Load-serving Entity, Reliability Coordinator, Transmission Operator, and Transmission Owner shall provide data and information, as specified, to the Reliability Coordinator(s) with which it has a reliability relationship.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will supply CAISO with the TE data and information identified by the CAISO as specified by the RC.

Nancy A. Jaworski  
CAISO  
Authorized Representative

9-30-11  
Date

[Signature]  
TE  
Authorized Representative

9-29-11  
Date

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**Schedule MOD-001-1**

Requirement and Sub-requirements:

**R1.** Each Transmission Operator shall select one of the methodologies listed below for calculating Available Transfer Capability (ATC) or Available Flowgate Capability (AFC) for each ATC Path per time period identified in R2 for those Facilities within its Transmission operating area:

- The Area Interchange Methodology, as described in MOD-028
- The Rated System Path Methodology, as described in MOD-029
- The Flowgate Methodology, as described in MOD-030

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

**Schedule MOD-001-1**

Requirement and Sub-requirements:

**R6.** When calculating Total Transfer Capability (TTC) or Total Flowgate Capability (TFC) the Transmission Operator shall use assumptions no more limiting than those used in the planning of operations for the corresponding time period studied, providing such planning of operations has been performed for that time period.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

*WMS*

*[Signature]*

CAISO

Authorized Representative

*3/31/11*

Date

*[Signature]*

TE

Authorized Representative

*3-24-11*

Date

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**Schedule MOD-029-1**

## Requirement and Sub-requirements:

- R1.** When calculating TTCs for ATC Paths, the Transmission Operator shall use a Transmission model which satisfies the following requirements:
- R1.1.** The model utilizes data and assumptions consistent with the time period being studied and that meets the following criteria:
- R1.1.1.** Includes at least:
- R1.1.1.1.** The Transmission Operator area. Equivalent representation of radial lines and facilities 161kV or below is allowed.
- R1.1.1.2.** All Transmission Operator areas contiguous with its own Transmission Operator area. (Equivalent representation is allowed.)
- R1.1.1.3.** Any other Transmission Operator area linked to the Transmission Operator's area by joint operating agreement. (Equivalent representation is allowed.)
- R1.1.2.** Models all system Elements as in-service for the assumed initial conditions.
- R1.1.3.** Models all generation (may be either a single generator or multiple generators) that is greater than 20 MVA at the point of interconnection in the studied area.
- R1.1.4.** Models phase shifters in non-regulating mode, unless otherwise specified in the Available Transfer Capability Implementation Document (ATCID).
- R1.1.5.** Uses Load forecast by Balancing Authority.
- R1.1.6.** Uses Transmission Facility additions and retirements.
- R1.1.7.** Uses Generation Facility additions and retirements.
- R1.1.8.** Uses Special Protection System (SPS) models where currently existing or projected for implementation within the studied time horizon.
- R1.1.9.** Models series compensation for each line at the expected operating level unless specified otherwise in the ATCID.
- R1.1.10.** Includes any other modeling requirements or criteria specified in the ATCID.
- R1.2.** Uses Facility Ratings as provided by the Transmission Owner and Generator Owner

## RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

AGREEMENT

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SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this requirement

DELEGATED TASKS

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**Schedule MOD-029-1**

## Requirement and Sub-requirements:

- R2.** The Transmission Operator shall use the following process to determine TTC:
- R2.1.** Except where otherwise specified within MOD-029-1, adjust base case generation and Load levels within the updated power flow model to determine the TTC (maximum flow or reliability limit) that can be simulated on the ATC Path while at the same time satisfying all planning criteria contingencies as follows:
- R2.1.1.** When modeling normal conditions, all Transmission Elements will be modeled at or below 100% of their continuous rating.
- R2.1.2.** When modeling contingencies the system shall demonstrate transient, dynamic and voltage stability, with no Transmission Element modeled above its Emergency Rating.
- R2.1.3.** Uncontrolled separation shall not occur.
- R2.2.** Where it is impossible to actually simulate a reliability-limited flow in a direction counter to prevailing flows (on an alternating current Transmission line), set the TTC for the non-prevailing direction equal to the TTC in the prevailing direction. If the TTC in the prevailing flow direction is dependant on a Special Protection System (SPS), set the TTC for the non-prevailing flow direction equal to the greater of the maximum flow that can be simulated in the non-prevailing flow direction or the maximum TTC that can be achieved in the prevailing flow direction without use of a SPS.
- R2.3.** For an ATC Path whose capacity is limited by contract, set TTC on the ATC Path at the lesser of the maximum allowable contract capacity or the reliability limit as determined by R2.1.
- R2.4.** For an ATC Path whose TTC varies due to simultaneous interaction with one or more other paths, develop a nomogram describing the interaction of the paths and the resulting TTC under specified conditions.
- R2.5.** The Transmission Operator shall identify when the TTC for the ATC Path being studied has an adverse impact on the TTC value of any existing path. Do this by modeling the flow on the path being studied at its proposed new TTC level simultaneous with the flow on the existing path at its TTC level while at the same time honoring the reliability criteria outlined in R2.1. The Transmission Operator shall include the resolution of this adverse impact in its study report for the ATC Path.
- R2.6.** Where multiple ownership of Transmission rights exists on an ATC Path, allocate TTC of that ATC Path in accordance with the contractual agreement made by the multiple owners of that ATC Path.
- R2.7.** For ATC Paths whose path rating, adjusted for seasonal variance, was established, known and used in operation since January 1, 1994, and no action has been taken to have the path rated using a different method, set the TTC at that previously established amount.
- R2.8.** Create a study report that describes the steps above that were undertaken (R2.1 – R2.7), including the contingencies and assumptions used, when determining the TTC and the results of the study. Where three phase fault damping is used to determine stability limits, that report shall also identify the percent used and include justification for use unless specified otherwise in the ATCID.

AGREEMENT

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RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this requirement

DELEGATED TASKS

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**Schedule MOD-029-1**

Requirement and Sub-requirements:

**R3.** Each Transmission Operator shall establish the TTC at the lesser of the value calculated in R2 or any System Operating Limit (SOL) for that ATC Path.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this requirement

DELEGATED TASKS

AGREEMENT

**Schedule MOD-029-1**

Requirement and Sub-requirements:

**R4.** Within seven calendar days of the finalization of the study report, the Transmission Operator shall make available to the Transmission Service Provider of the ATC Path, the most current value for TTC and the TTC study report documenting the assumptions used and steps taken in determining the current value for TTC for that ATC Path.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

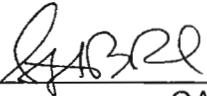
- CAISO
- TE

SUPPORTING ENTITY

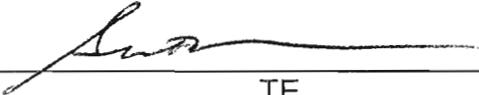
The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

*AKS*  
  
\_\_\_\_\_  
CAISO  
Authorized Representative

3/31/11  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

3-24-11  
Date

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**NUC-001-2**

Requirement and Sub-requirements:

**R2.** The Nuclear Plant Generator Operator and the applicable Transmission Entities shall have in effect one or more Agreements that include mutually agreed to NPIRs and document how the Nuclear Plant Generator Operator and the applicable Transmission Entities shall address and implement these NPIRs.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE will document how it addresses and implements its delegated tasks under the NPIRs and provide that documentation to CAISO in compliance with this requirement.

**NUC-001-2**

Requirement and Sub-requirements:

**R4.** Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall:  
**R4.1.** Incorporate the NPIRs into their operating analyses of the electric system.  
**R4.2.** Operate the electric system to meet the NPIRs.  
**R4.3.** Inform the Nuclear Plant Generator Operator when the ability to assess the operation of the electric system affecting NPIRs is lost.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE shall incorporate the steady state NPIRs into the operating analyses of its electric system.

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**NUC-001-2**

Requirement and Sub-requirements:

**R6.** Per the Agreements developed in accordance with this standard, the applicable Transmission Entities and the Nuclear Plant Generator Operator shall coordinate outages and maintenance activities which affect the NPIRs.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

Per the Agreements developed in accordance with this standard, the TE shall coordinate its outages and maintenance activities which affect the NPIRs with the CAISO.

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**NUC-001-2**

Requirement and Sub-requirements:

**R8.** Per the Agreements developed in accordance with this standard, the applicable Transmission Entities shall inform the Nuclear Plant Generator Operator of actual or proposed changes to electric system design, configuration, operations, limits, protection systems, or capabilities that may impact the ability of the electric system to meet the NPIRs.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

Per the Agreements developed in accordance with this standard, the TE shall inform the CAISO of its actual or proposed changes to its electric system design, configuration, operations, limits, protection systems, or capabilities that may impact the ability of the electric system to meet the NPIRs.

**NUC-001-2**

## Requirement and Sub-requirements:

- R9.** The Nuclear Plant Generator Operator and the applicable Transmission Entities shall include, as a minimum, the following elements within the agreement(s) identified in R2.
- R9.1.** Administrative elements:
- R9.1.1.** Definitions of key terms used in the agreement.
- R9.1.2.** Names of the responsible entities, organizational relationships, and responsibilities related to the NPIRs.
- R9.1.3.** A requirement to review the agreement(s) at least every three years.
- R9.1.4.** A dispute resolution mechanism.
- R9.2.** Technical requirements and analysis:
- R9.2.1.** Identification of parameters, limits, configurations, and operating scenarios included in the NPIRs and, as applicable, procedures for providing any specific data not provided within the agreement.
- R9.2.2.** Identification of facilities, components, and configuration restrictions that are essential for meeting the NPIRs.
- R9.2.3.** Types of planning and operational analyses performed specifically to support the NPIRs, including the frequency of studies and types of Contingencies and scenarios required.
- R9.3.** Operations and maintenance coordination:
- R9.3.1.** Designation of ownership of electrical facilities at the interface between the electric system and the nuclear plant and responsibilities for operational control coordination and maintenance of these facilities.
- R9.3.2.** Identification of any maintenance requirements for equipment not owned or controlled by the Nuclear Plant Generator Operator that are necessary to meet the NPIRs.
- R9.3.3.** Coordination of testing, calibration and maintenance of on-site and off-site power supply systems and related components.
- R9.3.4.** Provisions to address mitigating actions needed to avoid violating NPIRs and to address periods when responsible Transmission Entity loses the ability to assess the capability of the electric system to meet the NPIRs. These provisions shall include responsibility to notify the Nuclear Plant Generator Operator within a specified time frame.
- R9.3.5.** Provision for considering, within the restoration process, the requirements and urgency of a nuclear plant that has lost all off-site and on-site AC power.
- R9.3.6.** Coordination of physical and cyber security protection of the Bulk Electric System at the nuclear plant interface to ensure each asset is covered under at least one entity's plan.
- R9.3.7.** Coordination of the NPIRs with transmission system Special Protection Systems and underfrequency and undervoltage load shedding programs.

**R9.4. Communications and training:**

**R9.4.1.** Provisions for communications between the Nuclear Plant Generator Operator and Transmission Entities, including communications protocols, notification time requirements, and definitions of terms.

**R9.4.2.** Provisions for coordination during an off-normal or emergency event affecting the NPIRs, including the need to provide timely information explaining the event, an estimate of when the system will be returned to a normal state, and the actual time the system is returned to normal.

**R9.4.3.** Provisions for coordinating investigations of causes of unplanned events affecting the NPIRs and developing solutions to minimize future risk of such events.

**R9.4.4.** Provisions for supplying information necessary to report to government agencies, as related to NPIRs.

**R9.4.5.** Provisions for personnel training, as related to NPIRs.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**R9.2.1.** The TE shall provide the CAISO with specific data relating to identification of parameters, limits, configurations, and operating scenarios included in the NPIRs, that it has, that are not yet provided for in the agreement(s) identified in R2.

**R9.2.2.** The TE shall provide the CAISO with Identification of facilities, components, and configuration restrictions for its system that are essential for meeting the NPIRs.

**R9.2.3.** The TE shall provide the CAISO the types of operational analyses performed for its system specifically to support the NPIRs, including the frequency of studies and types of Contingencies and scenarios required.

**R9.3.1.** Pursuant to the agreements identified in R2 (as they may be amended from time to time) the TE shall provide the CAISO with the designation of ownership of electrical facilities at the interface between the electric system and the nuclear plant and responsibilities for operational control coordination and maintenance of these facilities.

**R9.3.2.** Pursuant to the agreements identified in R2 (as they may be amended from time to time) the TE shall provide the CAISO with the identification of any maintenance requirements for its equipment not owned or controlled by the Nuclear Plant Generator Operator that are necessary to meet the NPIRs.

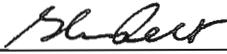
**R9.3.3.** The TE shall coordinate testing, calibration and maintenance of its off-site power supply systems and related components with the CAISO.

**R9.3.4.** The TE shall provide the CAISO with its provisions to address mitigating actions needed to avoid violating NPIRs. The TE shall notify the CAISO when it loses the ability to assess the capability of its electric system to meet the NPIRs.

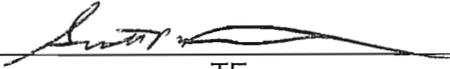
**R9.3.5.** The TE shall include within its restoration plan a provision for considering, within the restoration process, the requirements and urgency of a nuclear plant that has lost all off-site and on-site AC power.

**R9.4.1.** Pursuant to the agreements identified in R2 (as they may be amended from time to time), the TE shall have provisions in place for communications with the Nuclear Plant Generator Operator, including communications protocols, notification time requirements, and definitions of terms.

**R9.4.2.** The TE shall coordinate with the CAISO during an off-normal or emergency event affecting the NPIRs, provide timely information explaining the event, an estimate of when the system will be returned to a normal state, and the actual time the system is returned to normal.

  
\_\_\_\_\_  
CAISO  
Authorized Representative

03/30/10  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

3-29-10  
Date

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**Schedule PER-001-0**

Requirement and Sub-requirements:

R1. Each Transmission Operator and Balancing Authority shall provide operating personnel with the responsibility and authority to implement real-time actions to ensure the stable and reliable operation of the Bulk Electric System.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE will provide its operating personnel with the responsibility and authority to implement real time actions to ensure the stable and reliable operation of its transmission system.

---

**Schedule PER-002-0**

Requirement and Sub-requirements:

R1. Each Transmission Operator and Balancing Authority shall be staffed with adequately trained operating personnel.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

[Empty box for delegated tasks]

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**Schedule PER-002-0**

Requirement and Sub-requirements:

R2. Each Transmission Operator and Balancing Authority shall have a training program for all operating personnel that are in:  
R2.1. Positions that have the primary responsibility, either directly or through communications with others, for the real-time operation of the interconnected Bulk Electric System.  
R.2.2. Positions directly responsible for complying with NERC standards.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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**Schedule PER-002-0**

**Requirement and Sub-requirements:**

R3. For personnel identified in Requirement R2, the Transmission Operator and Balancing Authority shall provide a training program meeting the following criteria:

R3.1. A set of training program objectives must be defined, based on NERC and Regional Reliability Organization standards, entity operating procedures, and applicable regulatory requirements. These objectives shall reference the knowledge and competencies needed to apply those standards, procedures, and requirements to normal, emergency, and restoration conditions for the Transmission Operator and Balancing Authority operating positions.

R3.2. The training program must include a plan for the initial and continuing training of Transmission Operator and Balancing Authority operating personnel. That plan shall address knowledge and competencies required for reliable system operations.

R3.3. The training program must include training time for all Transmission Operator and Balancing Authority operating personnel to ensure their operating proficiency.

R3.4. Training staff must be identified, and the staff must be competent in both knowledge of system operations and instructional capabilities.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

AGREEMENT

---

Schedule PER-002-2

Nancy A. Hawick      9-30-11  
CAISO      Date  
Authorized Representative

[Signature]      9-29-11  
TE      Date  
Authorized Representative

---

**Schedule PER-003-0**

Requirement and Sub-requirements:

R1. Each Transmission Operator, Balancing Authority, and Reliability Coordinator shall staff all operating positions that meet both of the following criteria with personnel that are NERC-certified for the applicable functions:  
R1.1. Positions that have the primary responsibility, either directly or through communications with others, for the real-time operation of the interconnected Bulk Electric System.  
R1.2. Positions directly responsible for complying with NERC standards.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**Schedule PER-005-1**

Requirement and Sub-requirements:

**R3.** At least every 12 months each Reliability Coordinator, Balancing Authority and Transmission Operator shall provide each of its System Operators with at least 32 hours of emergency operations training applicable to its organization that reflects emergency operations topics, which includes system restoration using drills, exercises or other training required to maintain qualified personnel.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

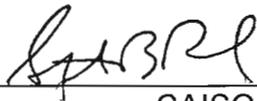
SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

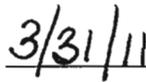
- CAISO
- TE
- None for this standard

DELEGATED TASKS

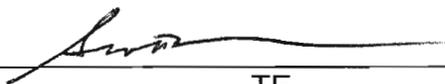
Each party shall be separately and wholly responsible for compliance with this requirement.



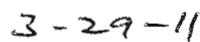
CAISO  
Authorized Representative



Date



TE  
Authorized Representative



Date

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**Schedule PRC-001-1**

Requirement and Sub-requirements:

R1. Each Transmission Operator, Balancing Authority, and Generator Operator shall be familiar with the purpose and limitations of protection system schemes applied in its area.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE is responsible for compliance with R1 for its transmission system.

Schedule PRC-001-1

Requirement and Sub-requirements:

R2 . Each Generator Operator and Transmission Operator shall notify reliability entities of relay or equipment failures as follows:  
R2.2. If a protective relay or equipment failure reduces system reliability, the Transmission Operator shall notify its Reliability Coordinator and affected Transmission Operators and Balancing Authorities. The Transmission Operator shall take corrective action as soon as possible.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will notify the CAISO of any relay or equipment failure that reduces system reliability. The TE will repair the relay or equipment failures as soon as possible and notify the CAISO when the repairs are complete.

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Schedule PRC-001-1

Requirement and Sub-requirements:

R3. A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.  
R3.2. Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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Schedule PRC-001-1

Requirement and Sub-requirements:

R4. Each Transmission Operator shall coordinate protection systems on major transmission lines and interconnections with neighboring Generator Operators, Transmission Operators, and Balancing Authorities.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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Schedule PRC-001-1

Requirement and Sub-requirements:

R5. A Generator Operator or Transmission Operator shall coordinate changes in generation, transmission, load or operating conditions that could require changes in the protection systems of others:  
R5.2. Each Transmission Operator shall notify neighboring Transmission Operators in advance of changes in generation, transmission, load, or operating conditions that could require changes in the other Transmission Operators' protection systems.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE shall coordinate changes in generation, transmission, load or operating conditions for its system that could require changes in the protection systems of others as required for the planning timeframe. For real time or near real time conditions, the coordination responsibility remains at the CAISO.

---

Schedule PRC-001-1

Requirement and Sub-requirements:

R6. Each Transmission Operator and Balancing Authority shall monitor the status of each Special Protection System in their area, and shall notify affected Transmission Operators and Balancing Authorities of each change in status.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will monitor the Special Protection Systems in its area and notify the CAISO of each change in status.

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**Schedule PRC-007-0**

Requirement and Sub-requirements:

R2. The Transmission Owner, Transmission Operator, Distribution Provider, and Load-Serving Entity that owns or operates a UFLS program (as required by its Regional Reliability Organization) shall provide, and annually update, its underfrequency data as necessary for its Regional Reliability Organization to maintain and update a UFLS program database.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule PRC-009-0**

Requirement and Sub-requirements:

R1. The Transmission Owner, Transmission Operator, Load-Serving Entity and Distribution Provider that owns or operates a UFLS program (as required by its Regional Reliability Organization) shall analyze and document its UFLS program performance in accordance with its Regional Reliability Organization's UFLS program. The analysis shall address the performance of UFLS equipment and program effectiveness following system events resulting in system frequency excursions below the initializing set points of the UFLS program. The analysis shall include, but not be limited to:

R1.1. A description of the event including initiating conditions.

R1.2. A review of the UFLS set points and tripping times.

R1.3. A simulation of the event.

R1.4. A summary of the findings.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

CAISO

TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

CAISO

TE

None for this standard

DELEGATED TASKS

Schedule PRC-009-0

Requirement and Sub-requirements:

R2. The Transmission Owner, Transmission Operator, Load-Serving Entity, and Distribution Provider that owns or operates a UFLS program (as required by its Regional Reliability Organization) shall provide documentation of the analysis of the UFLS program to its Regional Reliability Organization and NERC on request 90 calendar days after the system event.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**Schedule PRC-010-0**

Requirement and Sub-requirements:

R1. The Load-Serving Entity, Transmission Owner, Transmission Operator, and Distribution Provider that owns or operates a UVLS program shall periodically (at least every five years or as required by changes in system conditions) conduct and document an assessment of the effectiveness of the UVLS program. This assessment shall be conducted with the associated Transmission Planner(s) and Planning Authority(ies).

R1.1. This assessment shall include, but is not limited to:

R1.1.1. Coordination of the UVLS programs with other protection and control systems in the Region and with other Regional Reliability Organizations, as appropriate.

R1.1.2. Simulations that demonstrate that the UVLS programs performance is consistent with Reliability Standards TPL-001-0, TPL-002-0, TPL-003-0 and TPL-004-0.

R1.1.3. A review of the voltage set points and timing.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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Schedule PRC-010-0

Requirement and Sub-requirements:

R2. The Load-Serving Entity, Transmission Owner, Transmission Operator, and Distribution Provider that owns or operates a UVLS program shall provide documentation of its current UVLS program assessment to its Regional Reliability Organization and NERC on request (30 calendar days).

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

**Schedule PRC-022-1**

Requirement and Sub-requirements:

R1. Each Transmission Operator, Load-Serving Entity, and Distribution Provider that operates a UVLS program to mitigate the risk of voltage collapse or voltage instability in the BES shall analyze and document all UVLS operations and Misoperations. The analysis shall include:

- R1.1. A description of the event including initiating conditions.
- R1.2. A review of the UVLS set points and tripping times.
- R1.3. A simulation of the event, if deemed appropriate by the Regional Reliability Organization. For most events, analysis of sequence of events may be sufficient and dynamic simulations may not be needed.
- R1.4. A summary of the findings.
- R1.5. For any Misoperation, a Corrective Action Plan to avoid future Misoperations of a similar nature.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**Schedule PRC-022-1**

Requirement and Sub-requirements:

R2. Each Transmission Operator, Load-Serving Entity, and Distribution Provider that operates a UVLS program shall provide documentation of its analysis of UVLS program performance to its Regional Reliability Organization within 90 calendar days of a request.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

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**Schedule TOP-001-1**

Requirement and Sub-requirements:

R1. Each Transmission Operator shall have the responsibility and clear decision-making authority to take whatever actions are needed to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall provide its operators the responsibility and clear decision-making authority required for its transmission system per requirement R1.

---

### Schedule TOP-001-1

Requirement and Sub-requirements:

R2. Each Transmission Operator shall take immediate actions to alleviate operating emergencies including curtailing transmission service or energy schedules, operating equipment (e.g., generators, phase shifters, breakers), shedding firm load, etc.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

The TE will take actions unilaterally to protect its equipment if there is insufficient time to coordinate actions with the CAISO.

### Schedule TOP-001-1

#### Requirement and Sub-requirements:

R3. Each Transmission Operator, Balancing Authority, and Generator Operator shall comply with reliability directives issued by the Reliability Coordinator, and each Balancing Authority and Generator Operator shall comply with reliability directives issued by the Transmission Operator, unless such actions would violate safety, equipment, regulatory or statutory requirements. Under these circumstances the Transmission Operator, Balancing Authority or Generator Operator shall immediately inform the Reliability Coordinator or Transmission Operator of the inability to perform the directive so that the Reliability Coordinator or Transmission Operator can implement alternate remedial actions.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

In the event the WECC RC directly contacts the TE, the TE shall comply with the WECC RC directive or inform the WECC RC that such action would violate safety, equipment, regulatory or statutory requirements.

### Schedule TOP-001-1

Requirement and Sub-requirements:

R5. Each Transmission Operator shall inform its Reliability Coordinator and any other potentially affected Transmission Operators of real time or anticipated emergency conditions, and take actions to avoid, when possible, or mitigate the emergency.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

If the CAISO is unavailable and time permits, the TE will contact the WECC RC directly to inform the WECC RC of emergency conditions.

### Schedule TOP-001-1

Requirement and Sub-requirements:

R6. Each Transmission Operator, Balancing Authority, and Generator Operator shall render all available emergency assistance to others as requested, provided that the requesting entity has implemented its comparable emergency procedures, unless such actions would violate safety, equipment, or regulatory or statutory requirements.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

If additional emergency assistance is requested by the CAISO, the TE will work with the CAISO to supply all available emergency assistance, unless such actions would violate safety, equipment, or regulatory or statutory requirements.

**Schedule TOP-001-1**

Requirement and Sub-requirements:

R7. Each Transmission Operator and Generator Operator shall not remove Bulk Electric System facilities from service if removing those facilities would burden neighboring systems unless:

R7.1. For a generator outage, the Generator Operator shall notify and coordinate with the Transmission Operator. The Transmission Operator shall notify the Reliability Coordinator and other affected Transmission Operators, and coordinate the impact of removing the Bulk Electric System facility.

R7.2. For a transmission facility, the Transmission Operator shall notify and coordinate with its Reliability Coordinator. The Transmission Operator shall notify other affected Transmission Operators, and coordinate the impact of removing the Bulk Electric System facility.

R7.3. When time does not permit such notifications and coordination, or when immediate action is required to prevent a hazard to the public, lengthy customer service interruption, or damage to facilities, the Generator Operator shall notify the Transmission Operator, and the Transmission Operator shall notify its Reliability Coordinator and adjacent Transmission Operators, at the earliest possible time.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule TOP-001-1**

Requirement and Sub-requirements:

R8. During a system emergency, the Balancing Authority and Transmission Operator shall immediately take action to restore the Real and Reactive Power Balance. If the Balancing Authority or Transmission Operator is unable to restore Real and Reactive Power Balance it shall request emergency assistance from the Reliability Coordinator. If corrective action or emergency assistance is not adequate to mitigate the Real and Reactive Power Balance, then the Reliability Coordinator, Balancing Authority, and Transmission Operator shall implement firm load shedding.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

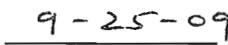
**DELEGATED TASKS**

During a system emergency the TE shall comply with requirement R8 as it pertains to reactive static devices.

  
\_\_\_\_\_  
CAISO  
Authorized Representative

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

  
\_\_\_\_\_  
Date

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**TOP-002-2**

Requirement and Sub-requirements:

R1. Each Balancing Authority and Transmission Operator shall maintain a set of current plans that are designed to evaluate options and set procedures for reliable operation through a reasonable future time period. In addition, each Balancing Authority and Transmission Operator shall be responsible for using available personnel and system equipment to implement these plans to ensure that interconnected system reliability will be maintained.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall have a current set of plans for operation of the TE system through a reasonable future time period in compliance with R1 and shall use its available personnel and system equipment to implement these plans.

---

**TOP-002-2**

Requirement and Sub-requirements:

R2. Each Balancing Authority and Transmission Operator shall ensure its operating personnel participate in the system planning and design study processes, so that these studies contain the operating personnel perspective and system operating personnel are aware of the planning purpose.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE shall ensure that the TE operators participate in the system planning and design study processes.

---

**TOP-002-2**

Requirement and Sub-requirements:

R4. Each Balancing Authority and Transmission Operator shall coordinate (where confidentiality agreements allow) its current-day, next-day, and seasonal planning and operations with neighboring Balancing Authorities and Transmission Operators and with its Reliability Coordinator, so that normal Interconnection operation will proceed in an orderly and consistent manner.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**TOP-002-2**

Requirement and Sub-requirements:

R5. Each Balancing Authority and Transmission Operator shall plan to meet scheduled system configuration, generation dispatch, interchange scheduling and demand patterns.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**TOP-002-2**

Requirement and Sub-requirements:

R6. Each Balancing Authority and Transmission Operator shall plan to meet unscheduled changes in system configuration and generation dispatch (at a minimum N-1 Contingency planning) in accordance with NERC, Regional Reliability Organization, subregional, and local reliability requirements.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will plan to meet unscheduled changes in system configuration in accordance with NERC, WECC, and CAISO reliability requirements for the TE system.

---

**TOP-002-2**

Requirement and Sub-requirements:

R10. Each Balancing Authority and Transmission Operator shall plan to meet all System Operating Limits (SOLs) and Interconnection Reliability Operating Limits (IROLs).

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

TE will plan to meet all SOLs for the TE system.

---

**TOP-002-2**

Requirement and Sub-requirements:

R11. The Transmission Operator shall perform seasonal, next-day, and current-day Bulk Electric System studies to determine SOLs. Neighboring Transmission Operators shall utilize identical SOLs for common facilities. The Transmission Operator shall update these Bulk Electric System studies as necessary to reflect current system conditions; and shall make the results of Bulk Electric System studies available to the Transmission Operators, Balancing Authorities (subject confidentiality requirements), and to its Reliability Coordinator.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will study and determine SOLs for its transmission system with CAISO coordination. The TE will share studies as appropriate.

---

**TOP-002-2**

**TOP-002-2**

Requirement and Sub-requirements:

R16. Subject to standards of conduct and confidentiality agreements, Transmission Operators shall, without any intentional time delay, notify their Reliability Coordinator and Balancing Authority of changes in capabilities and characteristics including but not limited to:  
R16.1. Changes in transmission facility status.  
R16.2. Changes in transmission facility rating.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE will notify the CAISO of any changes in transmission facility status and rating for the TE system.

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**TOP-002-2**

Requirement and Sub-requirements:

R17. Balancing Authorities and Transmission Operators shall, without any intentional time delay, communicate the information described in the requirements R1 to R16 above to their Reliability Coordinator.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE can directly contact the WECC RC and inform him of the information required in R17 if needed.

---

**TOP-002-2**

Requirement and Sub-requirements:

R18. Neighboring Balancing Authorities, Transmission Operators, Generator Operators, Transmission Service Providers and Load Serving Entities shall use uniform line identifiers when referring to transmission facilities of an interconnected network.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will use uniform line identifiers when referring to transmission facilities.

**TOP-002-2**

Requirement and Sub-requirements:

R19. Each Balancing Authority and Transmission Operator shall maintain accurate computer models utilized for analyzing and planning system operations

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

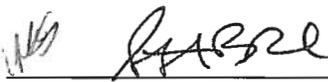
SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

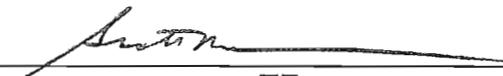
- CAISO
- TE
- None for this standard

DELEGATED TASKS

The TE shall maintain accurate computer models utilized for analyzing and planning system operations for its TE system.

  
\_\_\_\_\_  
CAISO  
Authorized Representative

10/19/10  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

8-10-10  
Date

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**Schedule TOP-003-1**

**Requirement and Sub-requirements:**

**R1.** Generator Operators and Transmission Operators shall provide planned outage information.

**R1.1.** Each Generator Operator shall provide outage information daily to its Transmission Operator for scheduled generator outages planned for the next day (any foreseen outage of a generator greater than 50 MW). The Transmission Operator shall establish the outage reporting requirements.

**R1.2.** Each Transmission Operator shall provide outage information daily to affected Balancing Authorities and Transmission Operators for scheduled generator and bulk transmission outages planned for the next day (any foreseen outage of a transmission line or transformer greater than 100 kV or generator greater than 50 MW) that may collectively cause or contribute to an SOL or IROL violation or a regional operating area limitation.

**R1.3.** Such information shall be available by 1200 Central Standard Time for the Eastern Interconnection and 1200 Pacific Standard Time for the Western Interconnection.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

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**Schedule TOP-003-1**

**Requirement and Sub-requirements:**

**R2.** Each Transmission Operator, Balancing Authority, and Generator Operator shall plan and coordinate scheduled outages of system voltage regulating equipment, such as automatic voltage regulators on generators, supplementary excitation control, synchronous condensers, shunt and series capacitors, reactors, etc., among affected Balancing Authorities and Transmission Operators as required.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall request planned outages of TE system voltage regulating equipment with the CAISO.

**Schedule TOP-003-1**

Requirement and Sub-requirements:

**R3.** Each Transmission Operator, Balancing Authority, and Generator Operator shall plan and coordinate scheduled outages of telemetering and control equipment and associated communication channels between the affected areas.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall request planned outages of TE telemetry and control equipment with the CAISO.

Nancy A. Irawak  
CAISO  
Authorized Representative

9-30-11  
Date

[Signature]  
TE  
Authorized Representative

9-29-11  
Date

**Schedule TOP-004-2**

Requirement and Sub-requirements:

R1. Each Transmission Operator shall operate within the Interconnection Reliability Operating Limits (IROLs) and System Operating Limits (SOLs).

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

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**Schedule TOP-004-2**

Requirement and Sub-requirements:

R2. Each Transmission Operator shall operate so that instability, uncontrolled separation, or cascading outages will not occur as a result of the most severe single contingency.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

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**Schedule TOP-004-2**

Requirement and Sub-requirements:

R3. Each Transmission Operator shall operate to protect against instability, uncontrolled separation, or cascading outages resulting from multiple outages, as specified by Reliability Coordinator.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

**Schedule TOP-004-2**

Requirement and Sub-requirements:

R4. If a Transmission Operator enters an unknown operating state (i.e. any state for which valid operating limits have not been determined), it will be considered to be in an emergency and shall restore operations to respect proven reliable power system limits within 30 minutes.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

### Schedule TOP-004-2

Requirement and Sub-requirements:

R5. Each Transmission Operator shall make every effort to remain connected to the Interconnection. If the Transmission Operator determines that by remaining interconnected, it is in imminent danger of violating an IROL or SOL, the Transmission Operator may take such actions, as it deems necessary, to protect its area.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

The TE will always attempt to remain connected to the interconnection. If in the judgment of the TE, remaining interconnected puts it in imminent danger of violating an IROL or SOL, the TE may take such actions, as it deems necessary, to protect its area. If time permits, the TE will coordinate its action with the CAISO.

### Schedule TOP-004-2

#### Requirement and Sub-requirements:

R6. Transmission Operators, individually and jointly with other Transmission Operators, shall develop, maintain, and implement formal policies and procedures to provide for transmission reliability. These policies and procedures shall address the execution and coordination of activities that impact inter- and intra-Regional reliability, including:

- R6.1. Monitoring and controlling voltage levels and real and reactive power flows.
- R6.2. Switching transmission elements.
- R6.3. Planned outages of transmission elements.
- R6.4. Responding to IROL and SOL violations.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

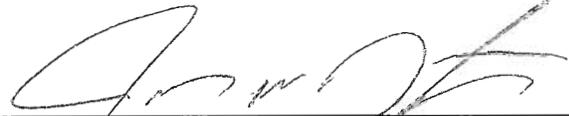
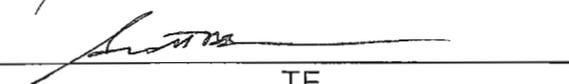
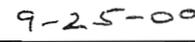
- CAISO
- TE
- None for this standard

#### DELEGATED TASKS

The TE is responsible to develop operating procedures for its system that meet R6 and the sub-requirements below:

- R6.1. Monitoring and controlling voltage levels and reactive power flows. Real power flows are the CAISO responsibility.
- R6.2. Switching transmission elements.

Schedule TOP-004-2

 CAISO Authorized Representative	 Date
 TE Authorized Representative	 Date

**TOP-005-2**

Requirement and Sub-requirements:

**R2.** Upon request, each Balancing Authority and Transmission Operator shall provide to other Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability, the operating data that are necessary to allow these Balancing Authorities and Transmission Operators to perform operational reliability assessments and to coordinate reliable operations. Balancing Authorities and Transmission Operators shall provide the types of data as listed in Attachment 1-TOP-005 "Electric System Reliability Data," unless otherwise agreed to by the Balancing Authorities and Transmission Operators with immediate responsibility for operational reliability.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will provide the CAISO with the 1-TOP-005 "Electric System Reliability Data" TE data that the CAISO is required to share. If other TOPs and BAs request data directly from the TE, the TE will either supply the data as required by R2, or refer the TOP or BA to the CAISO to obtain the data.

Nancy A. Trawick                      9-30-11  
CAISO    Date  
Authorized Representative

[Signature]                                      9-29-11  
TE    Date  
Authorized Representative



---

**Schedule TOP-006-2**

Requirement and Sub-requirements:

**R1.** Each Transmission Operator and Balancing Authority shall know the status of all generation and transmission resources available for use.  
**R1.2.** Each Transmission Operator and Balancing Authority shall inform the Reliability Coordinator and other affected Balancing Authorities and Transmission Operators of all generation and transmission resources available for use.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will know the status of the transmission resources in its system.

---

**Schedule TOP-006-2**

Requirement and Sub-requirements:

**R2.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall monitor applicable transmission line status, real and reactive power flows, voltage, load-tap-changer settings, and status of rotating and static reactive resources.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will monitor the transmission resources in its system.

---

**Schedule TOP-006-2**

**Requirement and Sub-requirements:**

**R3.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall provide appropriate technical information concerning protective relays to their operating personnel.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE will provide appropriate technical information regarding protective relays to its operating personnel.

---

**Schedule TOP-006-2**

**Requirement and Sub-requirements:**

**R4.** Each Transmission Operator, and Balancing Authority shall have information, including weather forecasts and past load patterns, available to predict the system's near-term load pattern.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall have the information needed for near term load patterns and forecasting information for its system.

---

**Schedule TOP-006-2**

**Requirement and Sub-requirements:**

**R5.** Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall use monitoring equipment to bring to the attention of operating personnel important deviations in operating conditions and to indicate, if appropriate, the need for corrective action.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall use the monitoring equipment required for compliance with R5 for its system.

---

**Schedule TOP-006-2****Requirement and Sub-requirements:**

**R6.** Each Balancing Authority and Transmission Operator shall use sufficient metering of suitable range, accuracy and sampling rate (if applicable) to ensure accurate and timely monitoring of operating conditions under both normal and emergency situations.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall have sufficient metering for monitoring operating conditions in its system under both normal and emergency situations.



---

**Schedule TOP-007-0**

Requirement and Sub-requirements:

R1. A Transmission Operator shall inform its Reliability Coordinator when an IROL or SOL has been exceeded and the actions being taken to return the system to within limits.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**

---

Schedule TOP-007-0

Requirement and Sub-requirements:

R2. Following a Contingency or other event that results in an IROL violation, the Transmission Operator shall return its transmission system to within IROL as soon as possible, but not longer than 30 minutes.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

[Empty box for delegated tasks]

Schedule TOP-007-0

Requirement and Sub-requirements:

R3. A Transmission Operator shall take all appropriate actions up to and including shedding firm load, or directing the shedding of firm load, in order to comply with Requirement R 2.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

DELEGATED TASKS

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**Schedule TOP-008-1**

Requirement and Sub-requirements:

R1. The Transmission Operator experiencing or contributing to an IROL or SOL violation shall take immediate steps to relieve the condition, which may include shedding firm load.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall take action unilaterally to protect its equipment if there is insufficient time to coordinate with the CAISO.

**Schedule TOP-008-1**

Requirement and Sub-requirements:

R2. Each Transmission Operator shall operate to prevent the likelihood that a disturbance, action, or inaction will result in an IROL or SOL violation in its area or another area of the Interconnection. In instances where there is a difference in derived operating limits, the Transmission Operator shall always operate the Bulk Electric System to the most limiting parameter.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

CAISO

TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

CAISO

TE

None for this standard

**DELEGATED TASKS**

### Schedule TOP-008-1

#### Requirement and Sub-requirements:

R3. The Transmission Operator shall disconnect the affected facility if the overload on a transmission facility or abnormal voltage or reactive condition persists and equipment is endangered. In doing so, the Transmission Operator shall notify its Reliability Coordinator and all neighboring Transmission Operators impacted by the disconnection prior to switching, if time permits, otherwise, immediately thereafter.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

The TE shall take action unilaterally to protect its equipment if there is insufficient time to coordinate with the CAISO. The TE shall notify the CAISO as soon as possible after to allow the CAISO to inform the WECC RC and affected BAs and TOPs.

**Schedule TOP-008-1**

Requirement and Sub-requirements:

R4. The Transmission Operator shall have sufficient information and analysis tools to determine the cause(s) of SOL violations. This analysis shall be conducted in all operating timeframes. The Transmission Operator shall use the results of these analyses to immediately mitigate the SOL violation.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

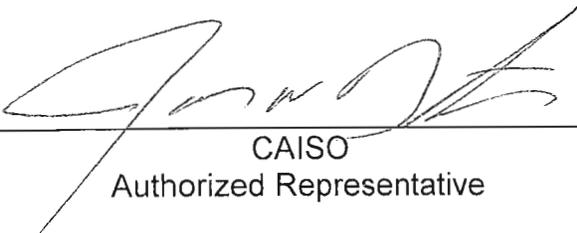
**SUPPORTING ENTITY**

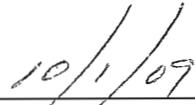
The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

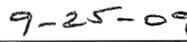
**DELEGATED TASKS**

[Empty box for delegated tasks]

  
\_\_\_\_\_  
CAISO  
Authorized Representative

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

  
\_\_\_\_\_  
Date

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### Schedule VAR-001-2

#### Requirement and Sub-requirements:

**R1.** Each Transmission Operator, individually and jointly with other Transmission Operators, shall ensure that formal policies and procedures are developed, maintained, and implemented for monitoring and controlling voltage levels and Mvar flows within their individual areas and with the areas of neighboring Transmission Operators.

#### RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

#### SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

#### DELEGATED TASKS

The TE shall have local procedures for monitoring and controlling voltage levels and MVAR flows in its system and shall cooperate with the CAISO in the development of formal policies and procedures for monitoring and controlling voltage levels and Mvar flows with the areas of neighboring Transmission Operators.

---

**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R2.** Each Transmission Operator shall acquire sufficient reactive resources – which may include, but is not limited to, reactive generation scheduling; transmission line and reactive resource switching; and controllable load - within its area to protect the voltage levels under normal and Contingency conditions. This includes the Transmission Operator's share of the reactive requirements of interconnecting transmission circuits.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall acquire static reactive reserves for its system.

---

**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R3.** The Transmission Operator shall specify criteria that exempts generators from compliance with the requirements defined in Requirement 4, and Requirement 6.1.  
**R3.1.** Each Transmission Operator shall maintain a list of generators in its area that are exempt from following a voltage or Reactive Power schedule.  
**R3.2.** For each generator that is on this exemption list, the Transmission Operator shall notify the associated Generator Owner.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R4.** Each Transmission Operator shall specify a voltage or Reactive Power schedule at the interconnection between the generator facility and the Transmission Owner's facilities to be maintained by each generator. The Transmission Operator shall provide the voltage or Reactive Power schedule to the associated Generator Operator and direct the Generator Operator to comply with the schedule in automatic voltage control mode (AVR in service and controlling voltage). 1. The voltage schedule is a target voltage to be maintained within a tolerance band during a specified period.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

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**Schedule VAR-001-2**

**Requirement and Sub-requirements:**

**R6.** The Transmission Operator shall know the status of all transmission Reactive Power resources, including the status of voltage regulators and power system stabilizers.

**R6.1.** When notified of the loss of an automatic voltage regulator control, the Transmission Operator shall direct the Generator Operator to maintain or change either its voltage schedule or its Reactive Power schedule.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall know the status of all static reactive devices in its system.

Upon notification of the loss of an automatic voltage regulator control by the CAISO or a Generator Operator, the TE shall direct the Generator Operator to maintain or change either its voltage schedule or its Reactive Power schedule.

---

**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R7. The Transmission Operator shall be able to operate or direct the operation of devices necessary to regulate transmission voltage and reactive flow.**

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

**The TE shall be able to operate or direct the operation of its static voltage control devices necessary to regulate the transmission voltage and reactive flow.**

---

**Schedule VAR-001-2**

**Requirement and Sub-requirements:**

**R8.** Each Transmission Operator shall operate or direct the operation of capacitive and inductive reactive resources within its area – which may include, but is not limited to reactive generation scheduling; transmission line and reactive resource switching; controllable load; and, if necessary, load shedding – to maintain system and Interconnection voltages within established limits.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

The TE shall operate static devices for voltage control in its system. The TE shall drop load unilaterally to prevent voltage collapse if there is insufficient time to coordinate with the CAISO first.

---

**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R9.** Each Transmission Operator shall maintain reactive resources – which may include, but is not limited to, reactive generation scheduling; transmission line and reactive resource switching; and controllable load - to support its voltage under first Contingency conditions.

**R9.1.** Each Transmission Operator shall disperse and locate the reactive resources so that the resources can be applied effectively and quickly when Contingencies occur.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall maintain sufficient dispersed static reactive resources in its system to support its voltage under first Contingency conditions to comply with R9 and its sub-requirement.

---

**Schedule VAR-001-2**

**Requirement and Sub-requirements:**

**R10.** Each Transmission Operator shall correct IROL or SOL violations resulting from reactive resource deficiencies (IROL violations must be corrected within 30 minutes) and complete the required IROL or SOL violation reporting.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

[Empty box for delegated tasks]

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**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R11.** After consultation with the Generator Owner regarding necessary step-up transformer tap changes, the Transmission Operator shall provide documentation to the Generator Owner specifying the required tap changes, a timeframe for making the changes, and technical justification for these changes.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

**DELEGATED TASKS**

**Schedule VAR-001-2**

Requirement and Sub-requirements:

**R12.** The Transmission Operator shall direct corrective action, including load reduction, necessary to prevent voltage collapse when reactive resources are insufficient.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

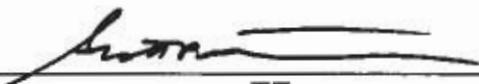
SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE shall coordinate with the CAISO the need for load reduction to prevent voltage collapse if there is sufficient time. If there is insufficient time to coordinate with the CAISO, the TE shall act unilaterally to prevent voltage collapse in its system.

 CAISO Authorized Representative	<u>9-30-11</u> Date
 TE Authorized Representative	<u>9-29-11</u> Date



Schedule PRC-004-WECC-1

Requirement and Sub-requirements:

**R2.3.2.** When FERAS is not available, then  
**R2.3.2.2.** Transmission Operators shall adjust the SOL and operate the facilities within established limits.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO  
 TE  
 None for this standard

DELEGATED TASKS

The TE will notify the CAISO when FERAS is not available.

Nancy A. Trawick  
CAISO  
Authorized Representative

9-30-11  
Date

[Signature]  
TE  
Authorized Representative

9-29-11  
Date

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**Schedule TOP-007-WECC-1**

Requirement and Sub-requirements:

**R1.** When the actual power flow exceeds an SOL for a Transmission path, the Transmission Operators shall take immediate action to reduce the actual power flow across the path such that at no time shall the power flow for the Transmission path exceed the SOL for more than 30 minutes.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

**SUPPORTING ENTITY**

The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

**DELEGATED TASKS**





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**Schedule VAR-002-WECC-1****Requirement and Sub-requirements:**

- R1.** Generator Operators and Transmission Operators shall have AVR in service and in automatic voltage control mode 98% of all operating hours for synchronous generators or synchronous condensers. Generator Operators and Transmission Operators may exclude hours for R1.1 through R1.10 to achieve the 98% requirement.
- R1.1.** The synchronous generator or synchronous condenser operates for less than five percent of all hours during any calendar quarter.
- R1.2.** Performing maintenance and testing up to a maximum of seven calendar days per quarter.
- R1.3.** AVR exhibits instability due to abnormal system configuration.
- R1.4.** Due to component failure, the AVR may be out of service up to 60 consecutive days for repair per incident.
- R1.5.** Due to a component failure, the AVR may be out of service up to one year provided the Generator Operator or Transmission Operator submits documentation identifying the need for time to obtain replacement parts and if required to schedule an outage.
- R1.6.** Due to a component failure, the AVR may be out of service up to 24 months provided the Generator Operator or Transmission Operator submits documentation identifying the need for time for excitation system replacement (replace the AVR, limiters, and controls but not necessarily the power source and power bridge) and schedule an outage.
- R1.7.** The synchronous generator or synchronous condenser has not achieved Commercial Operation.
- R1.8.** The Transmission Operator directs the Generator Operator to operate the synchronous generator, and the AVR is unavailable for service.
- R1.9.** The Reliability Coordinator directs Transmission Operator to operate the synchronous condenser, and the AVR is unavailable for service.
- R1.10.** If AVR exhibits instability due to operation of a Load Tap Changer (LTC) transformer in the area, the Transmission Operator may authorize the Generator Operator to operate the excitation system in modes other than automatic voltage control until the system configuration changes.

**RESPONSIBLE ENTITY**

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO  
 TE

**SUPPORTING ENTITY**

## AGREEMENT

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The entity responsible for performing the Delegated Tasks set forth below:

- CAISO
- TE
- None for this standard

## DELEGATED TASKS

Each party is separately and wholly responsible for compliance with this standard to the extent it operates a synchronous condenser(s).
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**Schedule VAR-002-WECC-1**

Requirement and Sub-requirements:

**R2.** Generator Operators and Transmission Operators shall have documentation identifying the number of hours excluded for each requirement in R1.1 through R1.10.

RESPONSIBLE ENTITY

The entity responsible for Compliance, including Compliance Audits, for this requirement and any sub-requirements is:

- CAISO
- TE

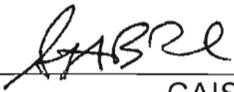
SUPPORTING ENTITY

The entity responsible for performing the Delegated Tasks set forth below:

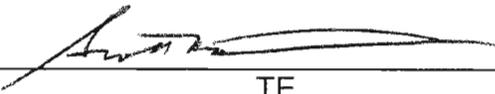
- CAISO
- TE
- None for this standard

DELEGATED TASKS

Each party is separately and wholly responsible for compliance with this standard to the extent it operates a synchronous condenser(s).

  
\_\_\_\_\_  
CAISO  
Authorized Representative

6/30/11  
Date

  
\_\_\_\_\_  
TE  
Authorized Representative

6-27-11  
Date

Schedule Matrix

		Responsible Entity	
Standard	Requirement	CAISO	TE
BAL-005-0.1b	R1	X	
CIP-001-2	R1		X
	R2		X
	R3		X
	R4		X
CIP-002-3	R1		X
	R2		X
	R3		X
	R4		X
CIP-003-3	R1		X
	R2		X
	R3		X
	R4		X
	R5		X
	R6		X
CIP-004-3	R1		X
	R2		X
	R3		X
	R4		X
CIP-005-3	R1		X
	R2		X
	R3		X
	R4		X
	R5		X
CIP-006-3	R1		X
	R2		X
	R3		X
	R4		X
	R5		X
	R6		X
	R7		X
	R8		X
CIP-007-3	R1		X
	R2		X

Schedule Matrix

		Responsible Entity	
Standard	Requirement	CAISO	TE
	R3		X
	R4		X
	R5		X
	R6		X
	R7		X
	R8		X
	R9		X
CIP-008-3	R1		X
	R2		X
CIP-009-3	R1		X
	R2		X
	R3		X
	R4		X
	R5		X
COM-001-1.1	R1	X	
	R2	X	
	R3	X	
	R4	X	
	R5	X	
COM-002-2	R1	X	
	R2		X
EOP-001-0	R2	X	
	R3	X	
	R4	X	
	R5	X	
	R6	X	
	R7	X	
	EOP-003-1	R1	X
R2			X
R3		X	
R4			X
R5		X	
R6		X	
R7			X
R8		X	
EOP-004-1	R2	X	

Schedule Matrix

		Responsible Entity	
Standard	Requirement	CAISO	TE
	R3	X	
EOP-005-1	R1	X	
	R2	X	
	R3	X	
	R4	X	
	R5	X	
	R6	X	
	R7	X	
	R8	X	
	R9	X	
	R10	X	
	R11	X	
EOP-008-0	R1	X	
FAC-014-2	R2	X	
	R5	X	
INT-004-2	R1	X	
IRO-001-1.1	R8	X	
IRO-002-2	R2	X	
IRO-004-2	R1	X	
IRO-005-3	R5	X	
	R9	X	
	R10	X	
IRO-010-1	R3	X	
MOD-001-1	R1	X	
	R6	X	
MOD-029-1	R1	X	
	R2	X	
	R3	X	
	R4	X	
NUC-001-2	R2	X	

Schedule Matrix

		Responsible Entity	
Standard	Requirement	CAISO	TE
	R4	X	
	R6	X	
	R8	X	
	R9	X	
PER-001-0	R1	X	
PER-002-0	R1		X
	R2		X
	R3		X
PER-003-0	R1		X
PER-005-1	R3	X	X
PRC-001-1	R1	X	
	R2	X	
	R3		X
	R4		X
	R5	X	
	R6	X	
PRC-007-0	R2		X
PRC-009-0	R1		X
	R2		X
PRC-010-0	R1		X
	R2		X
PRC-022-1	R1		X
	R2		X
TOP-001-1	R1	X	
	R2	X	
	R3	X	
	R5	X	
	R6	X	
	R7	X	
	R8	X	
TOP-002-2	R1	X	

Schedule Matrix

Standard	Requirement	Responsible Entity	
		CAISO	TE
	R2	X	
	R4	X	
	R5	X	
	R6	X	
	R10	X	
	R11	X	
	R16	X	
	R17	X	
	R18	X	
R19	X		
TOP-003-1	R1	X	
	R2	X	
	R3	X	
TOP-004-2	R1	X	
	R2	X	
	R3	X	
	R4	X	
	R5	X	
	R6	X	
TOP-005-2	R2	X	
TOP-006-2	R1	X	
	R2	X	
	R3	X	
	R4	X	
	R5	X	
	R6	X	
	R7	X	
TOP-007-0	R1	X	
	R2	X	
	R3	X	
TOP-008-1	R1	X	
	R2	X	
	R3	X	
	R4	X	
VAR-001-2	R1	X	

Schedule Matrix

Standard	Requirement	Responsible Entity	
		CAISO	TE
	R2	X	
	R3	X	
	R4		X
	R6	X	
	R7	X	
	R8	X	
	R9	X	
	R10	X	
	R11		X
	R12	X	
PRC-004-WECC-1	R2	X	
TOP-007-WECC-1	R1	X	
	R2	X	
VAR-002-WECC-1	R1	X	X
	R2	X	X

Nancy A. Irawak  
CAISO  
Authorized Representative

9-30-11  
Date

[Signature]  
TE  
Authorized Representative

9-29-11  
Date

### Schedule Revision History

Version	Schedule	Change	Date
1.0	All Original	Original Schedule Developed	5/31/2007
1.1	Matrix	Matrix updated due to Schedule additions and revisions	10/19/2007
1.0	WECC-IRO-STD-006-0	New Schedule	10/19/2007
1.0	WECC-PRC-STD-001-1	New Schedule	10/19/2007
1.0	WECC-PRC-STD-003-1	New Schedule	10/19/2007
1.0	WECC-PRC-STD-005-1	New Schedule	10/19/2007
1.0	WECC-TOP-STD-007-0	New Schedule	10/19/2007
1.1	EOP-004-1	Revised R2 & R3.	10/19/2007
1.1	TOP-004-1	Updated to reflect new NERC Version.	10/19/2007
1.1	VAR-001-1	R6 revised and R7 added.	10/19/2007
1.1	INT-004-1	Deleted R2 and sub-requirements as non-applicable to TOP	11/14/2007
1.1	IRO-002-1	Deleted R4 as non-applicable to TOP	11/14/2007
1.1	TOP-002-2	Deleted R15 as non-applicable to TOP	11/14/2007
1.2	Matrix	Updated due to removing requirements not applicable to TOP	11/14/2007
1.0	CIP-002-1	New Schedule	9/29/2008
1.0	CIP-003-1	New Schedule	9/29/2008
1.0	CIP-004-1	New Schedule	9/29/2008
1.0	CIP-005-1	New Schedule	9/29/2008
1.0	CIP-006-1	New Schedule	9/29/2008
1.0	CIP-007-1	New Schedule	9/29/2008
1.0	CIP-008-1	New Schedule	9/29/2008
1.0	CIP-009-1	New Schedule	9/29/2008
1.0	FAC-014-1	New Schedule	9/29/2008
1.2	INT-004-2	Substituted INT-004-2 for INT-004-1	9/29/2008
1.1	BAL-005-0.1b	Substituted BAL-005-0.1b for BAL-005-0	9/8/2009
1.1	COM-001-1.1	Substituted COM-001-1.1 for COM-001-1	9/8/2009
1.1	FAC-014-2	Substituted FAC-014-2 for FAC-014-1	9/8/2009
1.1	IRO-001-1.1	Substituted IRO-001-1.1 for IRO-001-1	9/8/2009
1.1	PRC-STD-001-1	Updated Path Table	9/8/2009
1.1	TOP-001-1	Changed language from CMRC to WECC RC in R3 & R5	9/8/2009
1.2	TOP-004-2	Substituted TOP-004-2 for TOP-004-1	9/8/2009
1.1	TOP-005-1.1	Substituted TOP-005-1.1 for TOP-005-1	9/8/2009
1.1	TOP-008-1	Changed language from CMRC to WECC RC in R3	9/8/2009

Version	Schedule	Change	Date
1.0	NUC-001-2	New Schedule	3/26/2010
1.1	CIP-002-2	Substituted CIP-002-2 for CIP-002-1	7/21/2010
1.1	CIP-003-2	Substituted CIP-003-2 for CIP-003-1	7/21/2010
1.1	CIP-004-2	Substituted CIP-004-2 for CIP-004-1	7/21/2010
1.1	CIP-005-2	Substituted CIP-005-2 for CIP-005-1	7/21/2010
1.1	CIP-006-2	Substituted CIP-006-2 for CIP-006-1	7/21/2010
1.1	CIP-007-2	Substituted CIP-007-2 for CIP-007-1	7/21/2010
1.1	CIP-008-2	Substituted CIP-008-2 for CIP-008-1	7/21/2010
1.1	CIP-009-2	Substituted CIP-009-2 for CIP-009-1	7/21/2010
1.2	TOP-002-2	Changed language from CRMC to WECC RC in R17	7/21/2010
1.2	CIP-002-3	Substituted CIP-002-3 for CIP-002-2	1/27/2011
1.2	CIP-003-3	Substituted CIP-003-3 for CIP-003-2	1/27/2011
1.2	CIP-004-3	Substituted CIP-004-3 for CIP-004-2	1/27/2011
1.2	CIP-005-3	Substituted CIP-005-3 for CIP-005-2	1/27/2011
1.2	CIP-006-3	Substituted CIP-006-3 for CIP-006-2	1/27/2011
1.2	CIP-007-3	Substituted CIP-007-3 for CIP-007-2	1/27/2011
1.2	CIP-008-3	Substituted CIP-008-3 for CIP-008-2	1/27/2011
1.2	CIP-009-3	Substituted CIP-009-3 for CIP-009-2	1/27/2011
1.0	MOD-001-1	New Schedule	3/22/2011
1.0	MOD-029-1	New Schedule	3/22/2011
1.0	PER-005-1	New Schedule	3/28/2011
1.1	TOP-007-WECC-1	Substituted TOP-007-WECC-1 for TOP-STD-007-0	6/23/2011
1.0	VAR-002-WECC-1	New Schedule	6/23/2011
1.0	PRC-STD-005-1	Deleted Schedule. Replaced by FAC-501-WECC-1, not applicable to TOP	6/23/2011
1.0	IRO-STD-006-0	Deleted Schedule. Replaced by IRO-006-WECC-1, not applicable to TOP	6/23/2011
1.1	CIP-001-2	Substituted CIP-001-2 for CIP-001-1	9/28/2011
1.2	IRO-002-2	Substituted IRO-002-2 for IRO-002-1	9/28/2011
1.1	IRO-004-2	Substituted IRO-004-2 for IRO-004-1	9/28/2011
1.1	IRO-005-3	Substituted IRO-005-3a for IRO-005-2	9/28/2011
1.0	IRO-010-1	New Schedule	9/28/2011
1.1	PER-002-0	Deleted R4. R4 retired and replaced by PER-005-1 R3	9/28/2011
1.0	PRC-004-WECC-1	New Schedule	9/28/2011
1.1	PRC-STD-001-1	Deleted Schedule. Replaced by PRC-004-WECC-1	9/28/2011
1.0	PRC-STD-003-1	Deleted Schedule. Replaced by PRC-004-WECC-1	9/28/2011
1.1	TOP-003-1	Substituted TOP-003-1 for TOP-003-0	9/28/2011
1.2	TOP-005-2	Substituted TOP-005-2 for TOP-005-1.1	9/28/2011
1.1	TOP-006-2	Substituted TOP-006-2 for TOP-006-1	9/28/2011
1.2	VAR-001-2	Substituted VAR-001-2 for VAR-001-1	9/28/2011

Nancy A. Hawick

CAISO  
Authorized Representative

9-30-11

Date

[Signature]

TE  
Authorized Representative

9-29-11

Date