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Project Name	Communications & Roles under Mandatory Reliability Standards Meeting
Author Company	SCE, PG&E, SDG&E
Author Name	Various
Author Title	Various
Title of document	Communications and Roles under Mandatory Reliability Standards Matrix
Date submitted	August 5, 2008
Other Comments	<p>Communications and Roles under Mandatory Reliability Standards Meeting</p> <p>The CAISO has entered into Reliability Standards Agreements (RSAs) with the three interconnected utilities, which include SCE, PG&E, and San Diego Gas & Electric Co. (SDG&E. These agreements allocate the responsibilities to the signatories for compliance as the TOP with NERC mandatory Reliability Standards. These RSAs are posted on the CAISO website at: http://www.aiso.com/1bef/1befa28a402c0.html .</p> <p>Therefore, the CAISO will conduct workshops to clarify for stakeholders the roles of the interconnected utilities compared to that of the CAISO with regard to GOs and GOPs communications with TOs in accordance with the mandatory Reliability Standards and the interconnected utilities for these communications.</p> <p>Stakeholders can submit comments by close of business August 8, 2008 to tdelaney@caiso.com.</p> <p>The CAISO recommends stakeholders use the track changes feature in MSWord to provide comments on the draft matrix and has added a column to capture any additional comments (e.g. description or reasoning behind suggested changes). Please include the following information when submitting comments:</p> <p>Company Name: Company Represented (if different than above): Contact Name: Contact Email Address: Contact Phone Number:</p>
Notes	

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The document was not produced by the CAISO and therefore does not necessarily reflect its views or opinion.

Aug. 5, 2008 - DRAFT

Communication Guidelines for the Generator Owner and/or Generator Operator to Contact the Transmission Operator in Accordance With NERC Reliability Standards

The California Independent System Operator Corporation (CAISO) has entered into Reliability Standards Agreements (RSAs) with Southern California Edison (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas & Electric Co. (SDG&E) (collectively “the interconnected utilities”). These RSAs allocate responsibilities between the CAISO and the interconnected utilities for compliance as Transmission Operators (TOPs) with the North American Electric Reliability Corporation (NERC) mandatory Reliability Standards. These RSAs are posted on the CAISO website at <http://www.caiso.com/1bef/1befa28a402c0.html>.

This document clarifies the roles of the interconnected utilities compared to that of the CAISO with regard to communications between Generator Owners (GOs) and/or Generator Operators (GOPs) and Transmission Operators (TOPs).¹ This document is solely intended for the purpose of delineating the appropriate lines of communications between GOs/GOPs and TOPs² under the NERC Reliability Standards and is not intended to take the place of any other obligations. Therefore, these protocols do not relieve the Generator Owner and/or Generator Operator of obligations to communicate with the interconnected utility under appropriate contracts (*e.g.*, Operating Agreements, System Operating Bulletins).

Communication Guidelines³ for the Generator Owner/Operator to Contact the Transmission Operator⁴		
Standard Title	Reliability Standard Requirements⁵	Generator Owner/Generator Operator
BAL-005-0 R1	All generation, transmission and load operating within an Interconnection must be included within the metered boundaries of a BA area.	The CAISO will post a list of all generators within the boundaries of its BA area on the CAISO website at http://www.caiso.com/14d4/14d4c6c961cc0.xls . Generators may contact the CAISO directly if there are questions.

¹ These guidelines do not relieve the Generator Owner and/or Generator Operator of obligations to contact other functional entities as directed by the NERC Reliability Standards, including the BA.

² If not specified, either the CAISO or the interconnected utility may make requests under the standards as the TOP.

³ These guidelines are subject to modification, including, without limitation, to update the guidelines with respect to new standards or modified standards.

⁴ Where used in this chart, the term “its interconnected utility” means the transmission control centers/switching centers of SCE, PG&E, or SDG&E, as appropriate. Communication with SCE, PG&E, or SDG&E in the roles of Scheduling Coordinators does not constitute communication with the interconnected utility as TOP for purposes of this chart.

⁵ This column setting forth the Reliability Standard Requirements is included for convenience and is not intended to modify the language of the Requirements. To the extent that there are any inadvertent discrepancies between this column and the language of the Requirements, the Requirements prevail.

BAL-005-0 R1.1	Each Generator Owner with generation facilities operating in an Interconnection shall ensure that those generation facilities are included within the metered boundaries of a BA Area.	The CAISO will post a list of all generators within the boundaries of its BA area on the CAISO website at http://www.caiso.com/14d4/14d4c6c961cc0.xls . Generators may contact the CAISO directly if there are questions.
CIP-001-1 / 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.	The Generator Operator shall have procedures for the communication of information concerning sabotage events to both its interconnected utility and the CAISO (through the Scheduling Coordinator per the CAISO tariff) who shall notify the RC and other appropriate parties in the Interconnection.
CIP-001- R3	Each RC, BA, TOP, GOP, and LSE shall provide its operating personnel with sabotage response guidelines, including personnel to contact, for reporting disturbances due to sabotage events.	The Generator Operator shall provide its operating personnel with sabotage response guidelines, including reporting disturbances due to sabotage events to both its interconnected utility and the CAISO (through the Scheduling Coordinator per the CAISO tariff) who shall notify the RC and other appropriate parties in the Interconnection..
COM-002- 2 / 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.	The Generator Operator shall have communications (voice and data) with both its interconnected utility and the CAISO (through the Scheduling Coordinator per the CAISO tariff).
PRC-001-1 R2 and R2.1	Each GOP and TOP shall notify reliability entities of relay or equipment failures as follows: R2.1 If a protective relay or equipment failure reduces system reliability, the GOP shall notify its TOP and its Host BA. The GOP shall take corrective action as soon as possible.	The GOP shall notify both its interconnected utility as the TOP and the CAISO (through their Scheduling Coordinator per the CAISO tariff) as the BA of relay or equipment failures that reduce system reliability.
PRC-001-1 R3, R3.1	A GOP or TOP shall coordinate new protective systems changes as follows: R3.1 Each GOP shall coordinate all new protective systems and all protective system changes with its TOP and Host BA (CAISO).	The GOP shall coordinate all new protective systems and all protective system changes with both its interconnected utility as the TOP and the CAISO (through the Scheduling Coordinator per the CAISO tariff) as the BA.
PRC-001-1 / R5, R5.1	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: R5.1 Each Generator Operator shall notify its TOP in advance of changes in generation or operating conditions that could require changes in the TOP's protection systems.	The GOP shall notify its interconnected utility and the CAISO (through the Scheduling per the CAISO tariff) as the TOPs in advance of changes in generation or operating conditions that could require changes in the interconnected utility protection systems.

<p>TOP-001-1 / R3</p>	<p>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 its inability to perform the directive so that the Reliability Coordinator or Transmission Operator can implement alternate remedial actions.</p>	<p>The Generator Operator shall comply with reliability directives issued by either its interconnected utility or the CAISO (through the Scheduling Coordinator per the CAISO tariff) unless such actions would violate safety, equipment, regulatory or statutory requirements. Under these circumstances the Generator Operator shall immediately inform the party who issued the directive (its interconnecting utility or the CAISO) of its inability to perform the directive so that the Reliability Coordinator, the interconnecting utility, or the CAISO can implement alternate remedial actions.</p>
<p>TOP-001-1 R7, R7.1</p>	<p>R7 Each TOP and GOP shall not remove BES 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.</p>	<p>For 7.1: For a planned generator outage, the Generator Operator shall notify and coordinate with the CAISO through their Scheduling Coordinator (per the CAISO tariff). The CAISO shall notify the Reliability Coordinator and other affected Transmission Operators, including interconnected utilities, and coordinate the impact of removing the Bulk Electric System facility.</p> <p>For a forced or unplanned generator outage, the Generator Operator shall notify and coordinate with its interconnected utility and the CAISO through their Scheduling Coordinator (per the CAISO tariff). The CAISO shall notify the Reliability Coordinator and other affected Transmission Operators and coordinate the impact of removing the Bulk Electric System facility.</p>
<p>TOP-001-1 R7.3</p>	<p>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 interruptions, or damage to facilities, the GOP shall notify the TOP, and the TOP shall notify its RC and adjacent TOPs, at the earliest possible time.</p>	<p>The Generator Operator shall notify and coordinate with both its interconnected utility and the CAISO (through their Scheduling Coordinator). The CAISO shall notify the RC and adjacent TOPs at the earliest possible time.</p>
<p>TOP-002-2 R13</p>	<p>At the request of the BA or TOP, a GOP shall perform generating real and reactive capability verification that shall include, among other variables, weather, ambient air and water conditions, and fuel quality and quantity, and provide the results to the BA or TOP operating personnel as requested.</p>	<p>If requested by its interconnected utility or the CAISO, a GOP shall perform generating real and reactive capability verification that shall include, among other variables, weather, ambient air and water conditions, and fuel quality and quantity, and provide the results to the requesting party.</p>
<p>TOP-002-2 R14, R14.1</p>	<p>GOPs shall, without any intentional time delay, notify their BA and TOP of changes in capabilities and characteristics including but not limited to: R14.1 Changes in real output capabilities</p>	<p>The Generator Operator shall notify both its interconnected utility and the CAISO (through the Scheduling Coordinator per the CAISO tariff) of changes in capabilities and characteristics including but not limited to changes in real output capabilities.</p>

TOP-002-2 R15	GOPs shall, at the request of the BA or TOP, provide a forecast of expected real power output to assist in operations planning (e.g., a seven-day forecast of real output).	Either its interconnected utility or the CAISO (through the Scheduling Coordinator per the CAISO tariff) might request information under this Requirement as the TOP. If requested by the Scheduling Coordinator, GOP's shall provide a forecast of expected real power output to assist in operations planning (e.g., a seven-day forecast of real output).
TOP-003-0 / R1, R1.1, R1.2, R1.3	R1 Generator Operators and Transmission Operators shall provide planned outage information. R1.1 Each GOP shall provide outage information daily to its TOP for scheduled generator outages planned for the net day (any foreseen outage of generator greater than 50 MW). The TOP shall establish the outage reporting requirements. R1.2 Each TOP shall provide outage information daily to its RC, and to affected BAs and TOPs 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. The RC shall establish the outage reporting requirements. 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.	The Generator Operator shall notify and provide planned outage information daily to the CAISO through their Scheduling Coordinator (per the CAISO tariff), who will communicate the planned outage information with the CAISO following the CAISOs outage reporting requirements. The CAISO shall provide planned generator outage information daily to its RC and to other affected BAs and TOPs, including the interconnected utilities, following the RCs outage reporting requirements.
TOP-003-0 / 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.	The Generator Operator shall plan and coordinate scheduled outages of system voltage regulating equipment, such as automatic voltage regulators on generators and supplementary excitation control, with both its interconnected utility and the CAISO. The Generator Operator shall coordinate with the CAISO through their Scheduling Coordinator (per the CAISO tariff).
TOP-003-0 / 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.	The Generator Operator shall plan and coordinate scheduled outages of telemetering and control equipment and associated communication channels with both its interconnected utility and the CAISO. The Generator Operator shall coordinate with the CAISO through their Scheduling Coordinator.
TOP-006-1 / R1, R1.1	Each Transmission Operator and Balancing Authority shall know the status of all generation and transmission resources available for use. R1.1 Each GOP shall inform its Host BA and the TOP of all generation resources available for use.	The Generator Operator shall inform the CAISO, as Host BA and the TOP, of all generation resources available for use through their Scheduling Coordinator. The CAISO will notify the interconnected utility of the resources available in its service area.
VAR-002-1 / R1	The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified the Transmission	The Generator Operator shall operate each generator connected to the interconnected transmission system in the automatic voltage control mode (automatic voltage regulator in service and controlling voltage) unless the Generator Operator has notified both its interconnected utility and the CAISO. The Generator Operator shall

	Operator.	coordinate with the CAISO through their Scheduling Coordinator.
VAR-002-1 / R2, R2.1	Unless exempted by the Transmission Operator, each Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings [1] as directed by the TOP. When generator's automatic voltage regulator is out of service, the GOP shall use an alternative method to control the generator voltage and reactive output to meet the voltage or Reactive Power schedule directed by the TOP.	Unless exempted by its interconnected utility, each Generator Operator shall maintain the generator voltage or Reactive Power output (within applicable Facility Ratings as directed by its interconnected utility.
VAR-002-1 R3	Each GOP shall notify its associated TOP as soon as practical, but within 30 minutes of any of the following: R3.1 A status or capability change on any generator Reactive Power resource, including the status of each automatic voltage regulatory and power system stabilizer and the expected duration of the change in status or capability. R3.2 A status of capability change on any other Reactive Power resources under the GOP's control and the expected duration of the change in status or capability.	The Generator Operator shall notify and coordinate with both its interconnected utility and the CAISO as soon as practical, but within 30 minutes of any of the following: R3.1 A status or capability change on any generator Reactive Power resource, including the status of each automatic voltage regulatory and power system stabilizer and the expected duration of the change in status or capability. R3.2 A status of capability change on any other Reactive Power resources under the GOP's control and the expected duration of the change in status or capability. The Generator Operator shall coordinate with the CAISO through their Scheduling Coordinator.
VAR-002-1 R5, R5.1	After consultation with the TOP regarding necessary step-up transformer tap changes, the GO shall ensure that transformer tap positions are changed according to the specifications provided by the TOP, unless such action would violate safety, an equipment rating, a regulatory requirement, or a statutory requirement. R5.1 If the GOP can't comply with the TOP's specifications, the GOP shall notify the TOP and shall provide the technical justification.	The Generator Owner/Operator shall communicate with its interconnected utility as the TOP for this standard.