

DISPATCH PROTOCOL (DP)

DP 1 OBJECTIVES, DEFINITIONS AND SCOPE

DP 1.1 Objectives

The objectives of this Protocol are:

- (a) to implement those sections of the ISO Tariff which involve real time and emergency operations;
- (b) to describe the real time Dispatch of the Ancillary Services specified in the Ancillary Services Requirements Protocol (ASRP);
- (c) to describe the operational activities of the ISO after all commitments have been made in the Hour-Ahead Market as described in the Scheduling Protocol (SP);
- (d) to describe the use of Supplemental Energy bids received by the ISO in accordance with the Schedules and Bids Protocol (SBP); and
- (e) to describe how the ISO will meet the operational requirements of NERC and WSCC guidelines.

DP 1.2 Definitions

DP 1.2.1 Master Definitions Supplement

Any word or expression defined in the Master Definitions Supplement to the ISO Tariff shall have the same meaning where used in this Protocol. A reference to a Section or an Appendix is a reference to a Section or an Appendix of the ISO Tariff. References to DP are to this Protocol or to the stated paragraph of this Protocol.

DP 1.2.2 Special Definitions for this Protocol

In this Protocol, the following words and expressions shall have the meanings set opposite them:

“Backup ISO Control Center” means the ISO Control Center located in Alhambra, California.

“**BEEP**” means the Balancing Energy and Ex-Post Pricing software referred to in SP 11.2 which is used to determine the merit order stack.

“**Control Area Operator**” means the person responsible for managing the real time operations of a Control Area.

“**Dispatch Instruction**” means an operating order that is issued by the ISO to a Participant pertaining to real time operations.

“**GCC**” means the single point of contact at the grid control center of Southern California Edison Company.

“**ISO Home Page**” means the ISO internet home page at <http://www.caiso.com/iso> or such other internet address as the ISO shall publish from time to time.

“**Primary ISO Control Center**” means the ISO Control Center located in Folsom, California.

“**Participant**” means any of those entities referred to in DP 1.3.1(a)-(f).

“**Power System Stabilizer (PSS)**” means an electronic control system applied on a Generating Unit that helps to damp out dynamic oscillations on a power system. The PSS senses Generator variables, such as voltage, current and shaft speed, processes this information and sends control signals to the Generator voltage regulator.

“**Qualifying Facility**” means a qualifying co-generation or small power production facility recognized by FERC.

“**Security Coordinator**” means the person responsible for Security Monitoring in real time for the California Area.

“**TOC**” means the single point of contact at the transmission operations center of Pacific Gas & Electric Company.

“**Total Transfer Capability (TTC)**” means the amount of power that can be transferred over an interconnected transmission network in a reliable manner while meeting all of a specific set of defined pre-contingency and post-contingency system conditions.

“**Western Interconnection**” means a network of transmission lines embodied within the WSCC Region.

DP 1.2.3 Rules of Interpretation

- (a) Unless the context otherwise requires, if the provisions of this Protocol and the ISO Tariff conflict, the ISO Tariff will prevail to the extent of the inconsistency. The provisions of the ISO Tariff have been summarized or repeated in this Protocol only to aid understanding.
- (b) A reference in this Protocol to a given agreement, ISO Protocol or instrument shall be a reference to that agreement or instrument as modified, amended, supplemented or restated through the date as of which such reference is made.
- (c) The captions and headings in this Protocol are inserted solely to facilitate reference and shall have no bearing upon the interpretation of any of the terms and conditions of this Protocol.
- (d) This Protocol shall be effective as of the ISO Operations Date.
- (e) Time references in this Protocol are references to prevailing Pacific time.

DP 1.3 Scope

DP 1.3.1 Scope of Application to Parties

This Protocol applies to the ISO and to the Participants:

- (a) Scheduling Coordinators (SCs);
- (b) Utility Distribution Companies (UDCs);
- (c) Participating Transmission Owners (PTOs);
- (d) Participating Generators; and
- (e) Control Area Operators, to the extent the agreement between the Control Area Operator and the ISO so provides.

DP 1.3.2 Liability of the ISO

Any liability of the ISO arising out of or in relation to this Protocol shall be subject to Section 14 of the ISO Tariff as if references to the ISO Tariff were references to this Protocol.

(b) Operating Manual

The NERC Operating Manual supplied by NERC to all utilities and Control Areas as a reference for dispatchers to use during normal and emergency operations of the grid.

DP 2.1.3 Local Reliability Criteria (Standards)

The reliability criteria unique to the transmission systems of each of the PTOs established at the later of: (1) the ISO Operations Date or (2) the date upon which a new Participating TO places its facilities under the control of the ISO. Each Participating TO must provide its Local Reliability Criteria to the ISO, as required by the TCA.

DP 2.1.4 NRC (Standards)

The reliability standards published by the NRC from time to time.

DP 2.2 Ancillary Services

The ISO will base its standards for the Dispatch of Ancillary Services upon WSCC MORC and ISO Controlled Grid reliability requirements.

DP 2.3 ISO Standards

The ISO Governing Board may establish guidelines more stringent than those established by NERC and WSCC as needed for the secure and reliable operation of the ISO Controlled Grid.

DP 2.4 Good Utility Practice (Standards)

When the ISO is exercising Operational Control of the ISO Controlled Grid, the ISO and Participants shall comply with Good Utility Practice. The ISO Tariff defines Good Utility Practice which, for ease of use of the DP, is repeated as follows:

“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 which, in the exercise of reasonable judgement 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 others, but rather to be acceptable practices, methods, or acts generally accepted in the region.”

DP 2.5 Existing Contracts

The ISO will implement Sections 2.4.3 and 2.4.4 of the ISO Tariff with respect to Existing Contracts after the close of the Hour-Ahead Market and in real time.

DP 2.6 The Role of Participants

In issuing the Dispatch Instructions, the ISO will not intentionally request UDCs, Participating Generators, Generating Unit operators, or SCs to exceed any inherent plant rating or local restriction imposed by the plant or transmission owner in order to protect the design and/or operational integrity of its plant or equipment. In issuing Dispatch Instructions to PTOs, the ISO will comply with Section 5.1.7 of the TCA. Any conflict that may arise between an ISO issued Dispatch Instruction and a plant or transmission owner’s restriction as mentioned above must be immediately brought to the ISO’s attention by the person receiving such Dispatch Instruction prior to any attempt to implement that Dispatch Instruction.

DP 3 SCHEDULING AND REAL TIME INFORMATION

DP 3.1 Final Schedules

The scheduling process described in the SP will produce for the ISO real time dispatchers for each Settlement Period of the Trading Day a Final Schedule consisting of the combined commitments contained in the Final Day-Ahead Schedules and the Final Hour-Ahead Schedules for the relevant Settlement Period. The Final Schedule will include information with respect to:

- (a) Generation schedules;
- (b) Demand schedules;
- (c) Ancillary Services schedules based on the ISO’s Ancillary Services auction;
- (d) Ancillary Services schedules, based on SCs’ ISO accepted schedules and forecast load, for self-provided Ancillary Services;

- (e) Interconnection schedules between the ISO Control Area and other Control Areas; and
- (f) Inter-Scheduling Coordinator Trades.

DP 3.2 Supplemental Energy

In addition to the Final Schedules, Supplemental Energy bids will be available to the ISO real time dispatchers, as described in the SBP, by forty-five (45) minutes prior to the start of the Settlement Period to which such Supplemental Energy bids apply.

DP 3.3 SC Intertie Schedules

In accordance with the SBP and the SP, SCs shall provide the ISO with Interconnection schedules prepared in accordance with all NERC, WSCC and ISO requirements. The provisions of the SBP and the SP shall apply to real time changes in Interconnection schedules under Existing Contracts.

DP 3.4 Information to be Supplied by SCs

DP 3.4.1 SC Dispatch

Each SC shall be responsible for the scheduling and Dispatch of Generation and Demand in accordance with its Final Schedule.

DP 3.4.2 Generator or Interconnection Schedule Change

Each SC shall keep the ISO apprised of any change or potential change in the current status of all Generating Units, Interconnection schedules and Inter-Scheduling Coordinator Trades. This will include any changes in Generating Unit capacity that could affect planned Dispatch and conditions that could affect the reliability of a Generating Unit. Each SC shall immediately pass to the ISO any information which it receives from a Generator which the Generator provides to the SC pursuant to DP 3.7. Each SC shall immediately pass to the ISO any information it receives from an EOE which the EOE provides to the SC pursuant to DP 3.9.

DP 3.4.3 Verbal Communication with Generators

Normal verbal communication of Dispatch Instructions between the ISO and Generators will be via the relevant SC. Each SC must immediately pass on to the Generator concerned any verbal communication for the Generator which it receives from the ISO. If the ISO considers that there has been a failure at a particular point

in time or inadequate response over a particular period of time by the Generating Units to the Dispatch Instruction, the ISO will notify the relevant SC. The ISO may, with the prior permission of the Scheduling Coordinator concerned, communicate with and give Dispatch instructions to the operators of Generating Units and Loads directly without having to communicate through their appointed Scheduling Coordinator. In situations of deteriorating system conditions or emergency, the ISO reserves the right to communicate directly with the Generator(s) as required to ensure System Reliability.

DP 3.4.4 Consequences of a Failure to Respond or Inadequate Response

The ISO may apply penalties, fines, economic consequences or the sanctions referred to in DP 9.5.2 for any failure or inadequate response under DP 3.4.3 to the SC representing the Generator responsible for such failure or inadequate response (which may be appropriately weighted to reflect its seriousness) subject to any necessary FERC approval.

DP 3.5 Information to be Supplied by UDCs

DP 3.5.1 UDC Status Change

Each UDC shall keep the ISO informed of any change or potential change in the status of its transmission lines and station equipment at the point of interconnection with the ISO Controlled Grid. Each UDC shall keep the ISO informed as to any event or circumstance in the UDC's service territory that could affect the reliability of the ISO Controlled Grid. This would include adverse weather conditions, fires, bomb threats, etc.

DP 3.5.2 UDC Outage Scheduling

Each UDC shall schedule all equipment Outages (or Outages of other equipment that could affect the ISO Controlled Grid) at the point of interconnection with the ISO using the appropriate Outage scheduling procedures described in the OCP.

DP 3.5.3 UDC Outage Emergency Scheduling

Each UDC shall coordinate any requests for emergency Outages on point of interconnection equipment directly with the appropriate ISO Control Center as specified in DP 6.2.

DP 3.6 Information to be Supplied by PTOs

DP 3.6.1 Transmission Status Change

Each PTO shall report any change or potential change in equipment status of the PTO's transmission assets turned over to the control of the ISO or in equipment that affects transmission assets turned over to the control of the ISO immediately to the ISO (this will include line and station equipment, line protection,

DP 3.9

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when developed. The ISO will post such procedures on the WEnet when agreed.

DP 6 ROUTINE OPERATION OF THE ISO CONTROLLED GRID

DP 6.1 Overview/Responsibility

The ISO shall operate the ISO Controlled Grid in accordance with the standards described in DP 2 and within the limit of all applicable nomograms and established operating limits and procedures.

DP 6.2 ISO Controlled Facilities

DP 6.2.1 General

The ISO shall have Operational Control of all transmission lines and associated station equipment that have been transferred to the ISO Controlled Grid from the PTOs as listed in the ISO Register.

DP 6.2.2 Primary ISO Control Center

The Primary ISO Control Center shall have Operational Control over:

- (a) all transmission lines greater than 230kV and associated station equipment on the ISO Controlled Grid;
- (b) all Interconnections; and
- (c) all 230 kV and lower voltage transmission lines and associated station equipment identified in the ISO Register as that portion of the ISO Controlled Grid located in the PG&E Service Area.

DP 6.2.3 Backup ISO Control Center

The Backup ISO Control Center shall have Operational Control over all 230 kV and lower voltage transmission lines and associated station equipment identified in the ISO Register as that portion of the ISO Controlled Grid located in the SCE and SDGE Service Areas.

DP 6.3 Clearing Equipment for Work

The clearance procedures of the ISO and the relevant UDC and PTO must be adhered to by all parties, to ensure the safety of all personnel working on ISO Controlled Grid transmission lines and

equipment. In accordance with the OCP, no work shall start on any
equipment or line which is under the Operational Control of the

ISO unless final approval has first been obtained from the appropriate ISO Control Center. Prior to starting the switching to return any line or equipment to service the ISO shall confirm that all formal requests to work on the cleared line or equipment have been released.

DP 6.4 Equipment De-energized for Work

In some circumstances, System Reliability requirements may require a recall capability that can only be achieved by allowing work to proceed with the line or equipment de-energized only (i.e. not cleared and grounded). Any personnel working on such de-energized lines and equipment must take all precautions as if the line or equipment were energized. Prior to energizing any such lines or equipment deenergized for work, the ISO shall confirm that all formal requests to work on the de-energized line or equipment have been released.

DP 6.5 Hot-Line Work

The ISO has full authority to approve requests by PTOs to work on energized equipment under the Operational Control of the ISO, and no such work shall be commenced until the ISO has given its approval.

DP 6.6 Intertie Switching

The ISO and the appropriate single point of contact for the relevant PTO and the adjacent Control Area shall coordinate during the de-energizing or energizing of any Interconnection.

DP 6.7 Operating Voltage Control Equipment

DP 6.7.1 Operating Voltage Control Equipment Under ISO Control

The ISO will direct each PTO's single point of contact in the operation of voltage control equipment that is under the ISO's Operational Control.

DP 6.7.2 Operating Voltage Control Equipment Under UDC Control

Each UDC must operate voltage control equipment under UDC control in accordance with existing UDC voltage control guidelines.

- (i) with the UDC, review that UDC's UFLS program periodically to ensure compliance with Applicable Reliability Criteria;
 - (ii) perform periodic audits of each UDC's UFLS to verify that the system is properly configured for each UDC; and
 - (iii) use reasonable endeavors to ensure that the total ISO UFLS is coordinated among the UDCs so that no UDC bears a disproportionate share of the total ISO UFLS program.
- (c) UDC Disconnect Load
- The ISO shall have the authority to direct a UDC to disconnect Load from the ISO Controlled Grid if necessary to avoid an anticipated System Emergency or to regain Operational Control over the ISO Controlled Grid during an actual System Emergency.
- (d) UDC Load Curtailment Programs
- As an additional resource for maintaining reliability and managing System Emergencies, the ISO may notify UDCs when the conditions exist which require the UDCs to implement their Load curtailment programs. The UDCs will exercise their best efforts, including seeking any necessary regulatory approvals, to enable the ISO to rely on their curtailment rights at specified levels of Operating Reserve.

DP 10.4.2 Load Curtailment

A SC may specify that Load will be reduced at specified Market Clearing Prices or offer the right to exercise Load curtailment to the ISO as an Ancillary Service or utilize Load curtailment itself (by way of self provision of Ancillary Services) as Non-Spinning Reserve or Replacement Reserve. The ISO, at its discretion, may require direct control over such Curtailable Demand to assume response capability for managing System Emergencies. The ISO may establish standards for automatic communication of curtailment instructions to implement Load curtailment as a condition for accepting any offered Load curtailment as an Ancillary Service.

