



Exceptional Dispatch

Debi Le Vine
Director, Market Services

Tim Van Blaricom
Manager, Real Time Operations

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Expectation of reliance on Definition of Exceptional Dispatch changed over time.

- February 2006 – Initial MRTU Tariff
 - Expectation was that Exceptional Dispatch use would be rare and infrequent
- Since summer 2008 – Software available for ISO testing
 - Software testing and market simulation began to reveal that Exceptional Dispatch would need to be relied on more often than anticipated
- Software enhancements should decrease number of Exceptional Dispatches

Exceptional Dispatches can be issued at any time.

Although the ISO can issue an Exceptional Dispatch at any time if necessary, most Exceptional Dispatches are either issued in the day-ahead or real-time time frames

- Day-ahead:

- In advance of the Day-Ahead Market when operators have evidence that the IFM will not commit a resource identified as necessary for reliability
- After the IFM runs if a resource needed for reliability is not committed by the market

- Real-time:

- Any time after the Day Ahead Schedules are published

Pre-IFM of Exceptional Dispatch

- Events that require pre-IFM Exceptional Dispatch
 - Yesterday's Day-Ahead Market did not commit a resource needed for reliability or a resource needed to solve the market was not committed
 - The same condition is anticipated for the next Trading Day and the unit is not self scheduling
- Reason for pre-IFM Exceptional Dispatch
 - Prevents over-commitment in Day-Ahead process
 - Reduces potential for over-generation in off-peak hours

Post-IFM Exceptional Dispatch

- IFM results did not produce a feasible reliability result due to various conditions:
 - Voltage Support
 - Capacity based requirements
 - System requirements (load forecast change, adverse operating condition)
 - Post-IFM, scheduled unit forced outage
 - Post-IFM, forced transmission outage

Real-time Exceptional Dispatch

- Address a need that market software cannot address
 - Forecast or schedule does not match
 - Actual load
 - Load Distribution Factors (LDFs),
 - Transmission configuration
 - Unit outputs
 - Positioning a unit for higher ramp rate capability
 - Software limitations and variances (11.5% of total Exceptional Dispatch)
 - Unit operating limitations (including forbidden regions)

Exceptional Dispatches are decreasing.

Exceptional Dispatch Reporting Period	Number of Exceptional Dispatches	Average Number of Outages per Day	Average Number of ED per Day
April 1 – 15 (revised)	282	537	18.8
April 16 – May 15	828	581	27.6
May 16 – June 15	631	509	20.35

Reporting Period May 16th to June 15th

Total Exceptional Dispatches	=	631
Day-Ahead Exceptional Dispatches	=	184 (29%)
Real-time Exceptional Dispatches	=	447 (71%)
% Exceptional Dispatch of Total Load	≈	3%

Day-Ahead statistics for May 16 to June 15

- 76 Commitments (41.3%)
 - Path 26
 - G-219, SCE Local Area Generation Requirement for Orange County
 - G-217, South of Lugo Generation Requirements
 - G-206, San Diego Area Generation Requirements
 - T-103, SCIT
 - G-233, Bay Area Generation Commitment

Day-Ahead statistics for May 16 to June 15 (cont.)

- 82 Commitments (44.6%)
 - Transmission outage PG&E, SCE, or SDG&E
 - 14 commitments after June 1
 - Typically capacity based requirements
- 21 Commitments (11.4%)
 - SP 26
 - System Capacity
- 5 Commitments (2.7%)
 - Seldom used procedures
 - Requirements normally met by market run

HASP failure and manual intertie Exceptional Dispatch are included in Real-Time statistics

- 110 Exceptional Dispatches for HASP Failure (24.6%)
 - Represents intertie schedules that ISO believes would have cleared if HASP had not failed
- 68 Manual Dispatches (15.2% of total)
 - Represents Intertie energy that was manually dispatched
 - Operator determined HASP results not satisfactory

Frequency of remaining Real-Time Exceptional Dispatch

- 83 dispatches due to Transmission outages (18.6%)
 - Transmission outage PG&E, SCE, or SDG&E
 - 14 commitments after June 1
 - Typically capacity based requirements
- 71 dispatches due to software limitations (15.9%)
- 37 dispatches due to: (8.3%)
 - Path 26
 - G-219, SCE Local Area Generation Requirement for Orange County
 - G-217, South of Lugo Generation Requirements
 - G-206, San Diego Area Generation Requirements
 - T-103, SCIT
 - G-233, Bay Area Generation Commitment

Frequency of remaining Real-Time Exceptional Dispatch (*cont.*)

- 25 dispatches due to ramp rate constraints (5.6%)
- 16 dispatches for capacity needs (3.6%)
 - NP 26
 - SP 26
 - System Capacity
- 37 dispatches for various conditions (8.2%)
 - Market disruptions
 - Over-generation
 - Seldom used procedures
 - Requirements normally met by market run

Next steps to reduce frequency of Exceptional Dispatches

- Software enhancements:
 - Multi-Stage Generator
 - Reduce HASP failures
 - Revise software requirement that only on-line capacity is considered in nomogram constraint
 - Model Qualifying Facility generators as net versus gross

- Process improvements:
 - Revise process and validation of generation and transmission outages
 - Improve modeling process