Shortage Pricing Tariff Provisions

EPFSTF

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Emergency Procedures and Shortage Pricing

- As defined in the PJM Tariff two emergency procedure actions invoke shortage pricing
  - Manual Load Dump Action
  - Voltage Reduction Action

- OPERATING AGREEMENT --> OA SCHEDULE 1 - PJM INTERCHANGE ENERGY MARKET --> OA SCHEDULE 1 SECTION 2 - CALCULATION OF LOCATIONAL MARGINAL PRICES --> OA Schedule 1 Sec 2.5 Calculation of Real-time Prices

Emergency Procedures and Shortage Pricing

- OA, Schedule 1, Section 2.5.1 Declaration of Shortage Pricing (d)
  - If the Office of the Interconnection issues a Voltage Reduction Action for the Reserve Zone or Reserve Sub-Zone the Reserve Penalty Factors for the *30-minute Reserve Requirement, the* Primary Reserve Requirement, and the Synchronized Reserve Requirement are incorporated in the calculation of the Synchronized Reserve Market Clearing Price, Non-Synchronized Reserve Market Clearing Price*, the Secondary Reserve Market Clearing Price,* and Locational Marginal Price, as applicable *and consistent with the provisions for determining those prices**. The Reserve Penalty Factors for *the 30-minute Reserve Requirement,* the Primary Reserve Requirement and the Synchronized Reserve Requirement will continue to be used in the Synchronized Reserve Market Clearing Price, Non-Synchronized Reserve Market Clearing Price, *Secondary Reserve Clearing Price,* and Locational Marginal Price calculation, as applicable *and consistent with the provisions for determining those prices**, until the Voltage Reduction Action has been terminated.
- Corresponding language exists for Manual Load Dump action.

*Provisions for determining Reserve Clearing Prices (including administrative price capping) are found in 3.2.3A, 3.2.3A.001, and 3.2.3A.01

Pricing Comparison - Voltage Reduction Action or Manual Load Dump Active in PJM RTO (SR, PR, and 30 minute reserve Priced at $850 reserve penalty) Circuit Breaker Active

	Dispatch Run - No Price Capping		Pricing Run - Price Capping Applied		Circuit Breaker – Post Process of Pricing Run Result***
	Shadow Price ($/MWh)	Clearing Price ($/MWh)	Shadow Price ($/MWh)	Clearing Price ($/MWh)	Clearing Price ($/MWh)
Energy Component of LMP*	$2,570	$2,570	$2,570	$2,570	**$2,000**
RTO Synch Reserve MCP**	$850	$2,550	$850	~~$2,550~~ **$1,700**	$1,700
RTO Primary Reserve MCP	$850	$1,700	$850	~~$1,700~~ **$1,275**	$1,275
RTO 30 Minute Reserve MCP	$850	$850	$850	**$850**	$850

* Marginal Resource for energy with incremental energy offer of $20

** RTO reserve prices modeled for simplicity

*** No loss and congestion modeled for simplicity. Per Matrix Package F and G when emergency procedure and CB are active then Energy Component of LMP = $2000 and Loss and Congestion Components of LMP are set to $0