ERCOT

Market Bulletin #31 – October 1, 2008

Process for Adjusting Market Clearing Prices of Energy and Shadow Prices in the ERCOT Zonal Market

This document is referenced in Protocols Section 7.1, Overview of ERCOT Congestion Management. Approval of this document by the ERCOT Board of Directors is pending. It is expected to be considered by the Board at its meeting on October 21, 2008.

When the Scheduling, Pricing and Dispatch (SPD) software produces a Market Clearing Price for Energy (MCPE) that exceeds the system-wide offer cap in any Congestion Zone, the SPD software caps the MCPE in the affected Zone to the system-wide offer cap (MCPE cap). Similarly, if SPD produces an MCPE that falls below the Balancing Energy offer floor, SPD will automatically reset the MCPE for that Zone to the Balancing Energy offer floor (MCPE floor).

Any time the SPD software implements either the MCPE cap or MCPE floor in any Congestion Zone, SPD also recalculates the Shadow Price for Commercially Significant Constraints (CSCs), based on the adjusted MCPE, in the two Congestion Zones affecting the CSC. Both the adjusted MCPE and the adjusted Shadow Price are posted to the Market Information System in real time.

Example

Assume there is binding congestion on the North-South CSC. Originally, the Shadow Price was calculated to be at the CSC Shadow Price Cap, which caused the MCPE for the South Zone to clear above the system-wide offer cap. However, all MCPEs are now capped at the system-wide offer cap, and SPD recalculated the MCPE accordingly. SPD will simultaneously recalculate the Shadow Price across this CSC as follows:

$$\frac{MCPE_S - MCPE_N}{Shift\ Factor_{N,N\text{-}S} - Shift\ Factor_{S,N\text{-}S}}$$

Where:

$MCPE_S$	=	Market Clearing Price of Energy for the South Zone
$MCPE_N$	=	Market Clearing Price of Energy for the North Zone
$Shift\ Factor_{N,N\text{-}S}$	=	Shift Factor for the North Zone on the North-South CSC
$Shift\ Factor_{S,N\text{-}S}$	=	Shift Factor for the South Zone on the North-South CSC