

# Locational Based Marginal Pricing

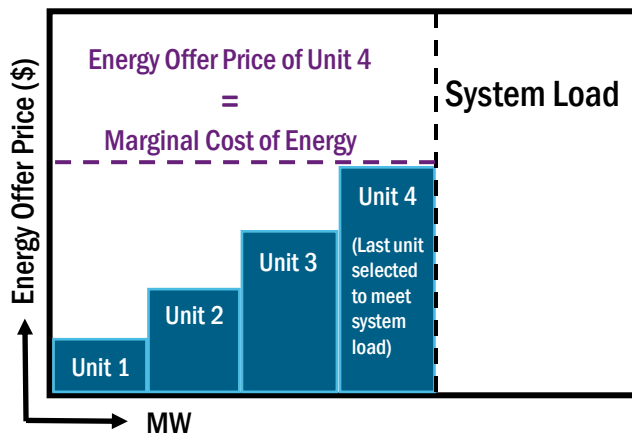
The **Locational Based Marginal Price (LBMP)** is the cost to serve the next MW of Load at a specific location in the grid.

## The Three Components of LBMP

### Marginal Energy Price

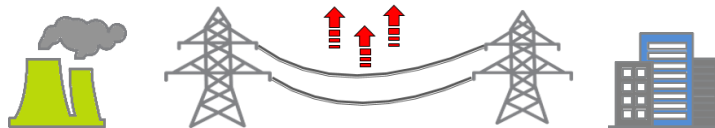
Cost of producing energy to meet system load in an unconstrained system

- Component of LBMP remains the same at all buses
- Assigned to a central Reference point (Marcy)



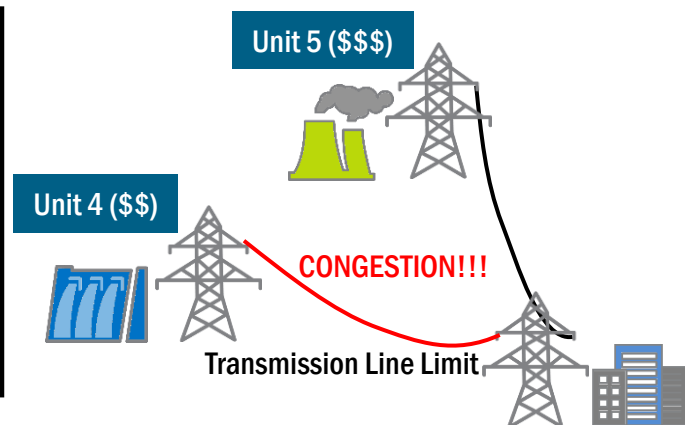
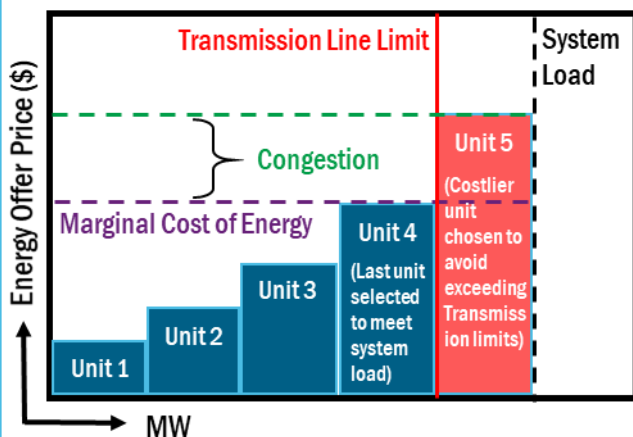
### Marginal Loss Price

Component that captures Transmission Losses along path to Load caused by Heat dissipation



### Marginal Cost of Congestion

Reflects the cost associated with costlier units dispatched to avoid exceeding Transmission Limits and other system constraints



$$\text{LBMP} = \text{Energy} + \text{Loss} - \text{Congestion}$$