Alternate "Special Pricing" During SCR/EDRP Events

Interim special pricing concept until SMD2 is up and running

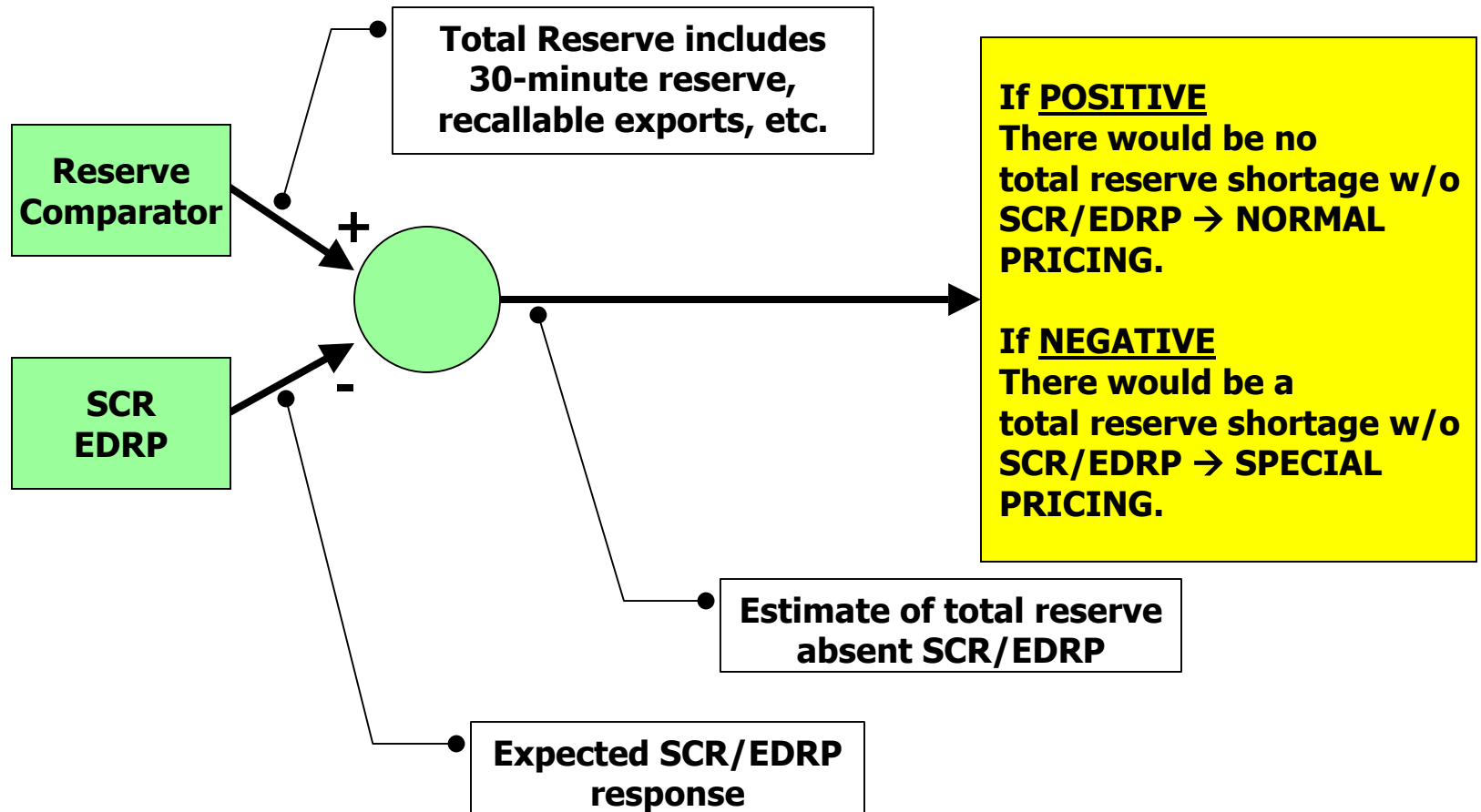# Alternative to SCD Changes

⤷ **Original Concept -- SCD:**

- *Add back expected SCR/EDRP load reduction*
- *Create SCR/EDRP energy resources*
- *Use SCD and hybrid-pricing rules to determine schedules for pricing*
- *July 15 go-live date (high risk)*

⤷ **Alternative Concept**

- *Monitor total reserve during SCR/EDRP events*
- *Invoke special pricing rules if there would be a shortage of total reserve absent the SCR/EDRP*
- *Does NOT require modification of SCD*
- *May 1 go-live date (lower risk)*

Detection Concept

Reserve Comparator

SCR EDRP

+

-

Total Reserve includes 30-minute reserve, recallable exports, etc.

Estimate of total reserve absent SCR/EDRP

Expected SCR/EDRP response

**If _POSITIVE_
There would be no total reserve shortage w/o SCR/EDRP → NORMAL PRICING.**

**If _NEGATIVE_
There would be a total reserve shortage w/o SCR/EDRP → SPECIAL PRICING.**

SCR/EDRP Pricing

➘ **Mimic the 10-minute reserve shortage pricing rules, but use the highest offer price of SCR/EDRP providers instead of $1000.**

  ▪ *SCR/EDRP pricing will be applied statewide since total reserve is a statewide requirement*

  ▪ *10-Minute Reserve Shortage pricing may be applied only east of central-east if there is a shortage of 10-minute reserve in the east, but not statewide*
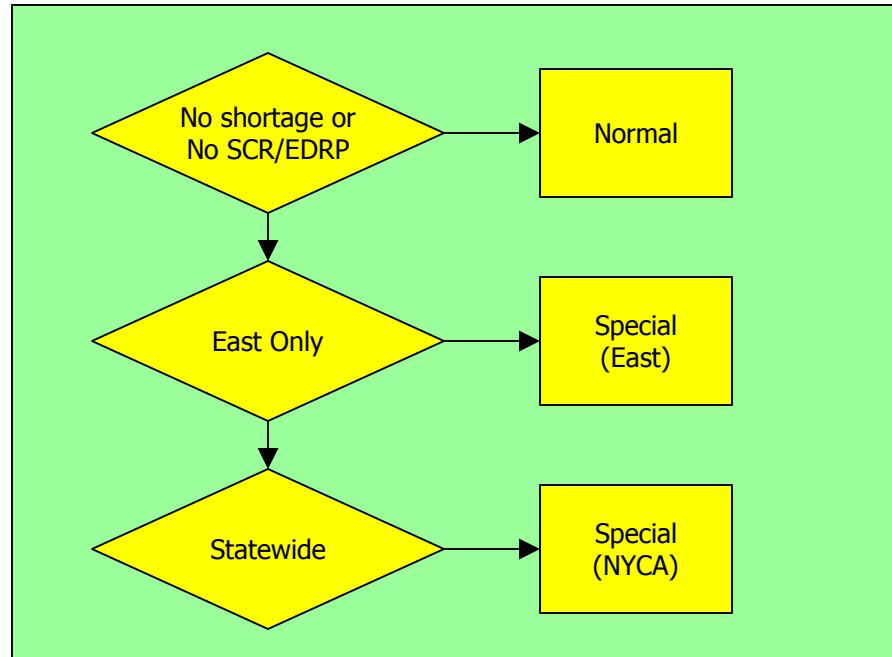
LBMPC

$$\begin{bmatrix} \text{o} & \text{No\_Shortage} \\ \text{o} & \text{SCR/EDRP} \\ \text{o} & \text{East\_Reserve\_Shortage} \\ \text{o} & \text{NYCA\_Reserve\_Shortage} \end{bmatrix}$$

$$\lambda_s$$

$$\begin{pmatrix} \lambda_{c1} & \lambda_{c2} & \dots \end{pmatrix}$$

$$\begin{pmatrix} PF_{g1} \\ PF_{g2} \\ \dots \end{pmatrix}$$

$$\begin{bmatrix} GF_{g1,c1} & GF_{g1,c2} & \dots \\ GF_{g2,c1} & GF_{g2,c2} & \dots \\ \dots & \dots & \dots \end{bmatrix}$$

No shortage or No SCR/EDRP → Normal

East Only → Special (East)

Statewide → Special (NYCA)

$$\begin{pmatrix} LBMP_{g1} \\ LBMP_{g2} \\ \dots \end{pmatrix}$$

$$\begin{pmatrix} CONG_{g1} \\ CONG_{g2} \\ \dots \end{pmatrix}$$

$$\begin{pmatrix} LOSS_{g1} \\ LOSS_{g2} \\ \dots \end{pmatrix}$$

SCR/EDRP

- **SCR/EDRP called anywhere (zones A-K)**
- **If a persistent shortage of total reserve is detected**
  - *Set NYC (zone J) price to SCR/EDRP offer price*
  - *Recalculate price of remaining load zones and buses in the NYCA. New price reflects variations about the zone J price due to losses*
  - *Do NOT lower any price*

Eastern 10-Minute Reserve Shortage

↘ **If a persistent shortage of eastern 10-minute reserve is detected**

  ▪ *Set NYC (zone J) price to $1000*

  ▪ *Recalculate price of remaining load zones and buses in the east. New price reflects variations about the zone J price due to losses*

  ▪ *Do NOT lower any eastern price*

  ▪ *Retain original prices in the west (load zones A-E)*

NYCA 10-Minute Reserve Shortage

⮯ **If a persistent shortage of NYCA 10-minute reserve is detected**

- *Set NYC (zone J) price to $1000*
- *Recalculate price of remaining load zones and buses in the NYCA. New price reflects variations about the zone J price due to losses*
- *Do NOT lower any price*