Energy Imbalance Market Implementation- Offsets

Fall Release 2014
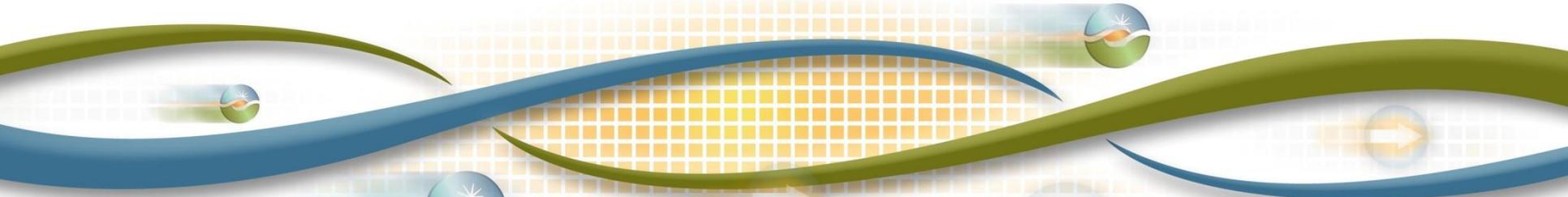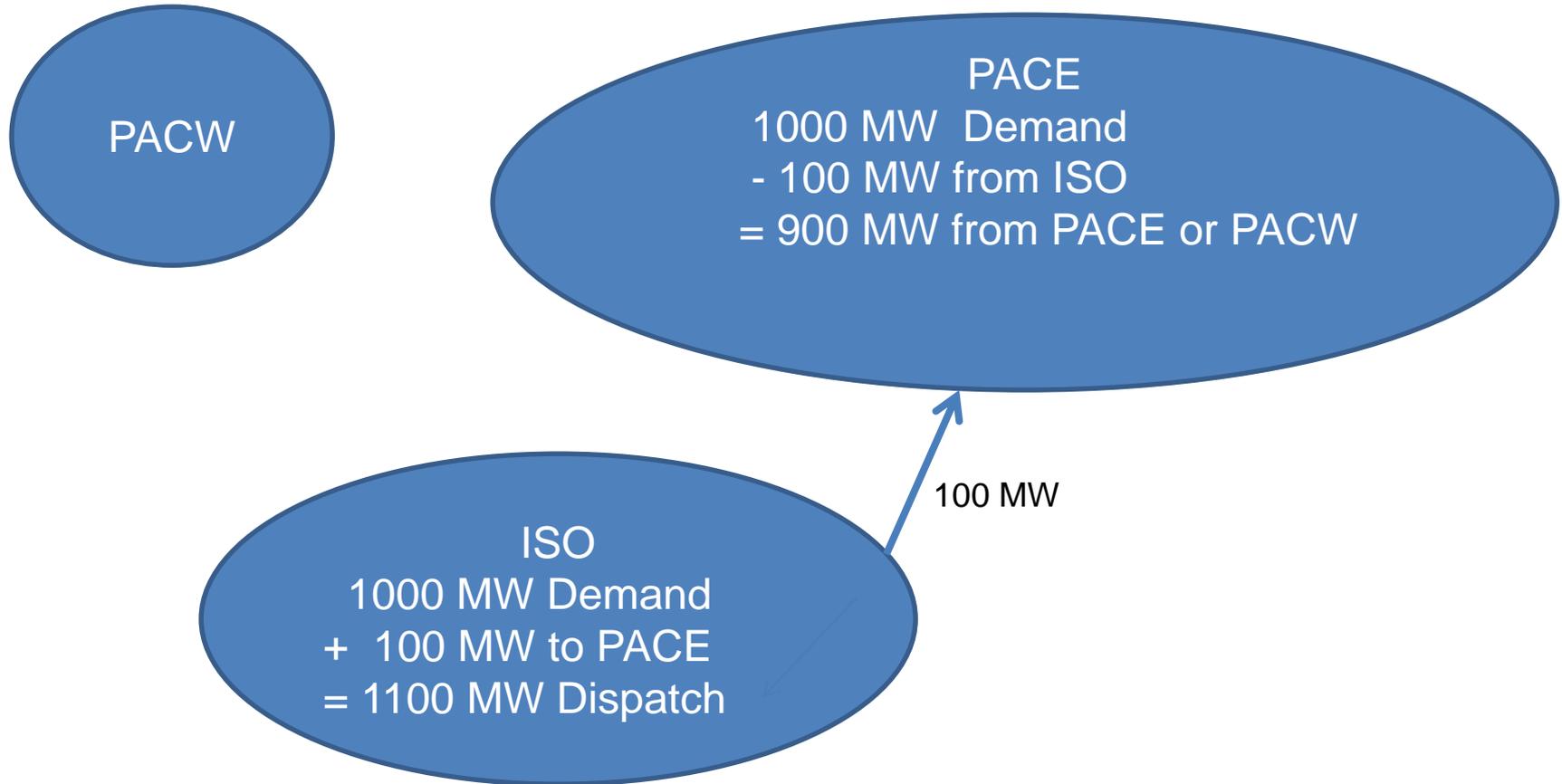
EIM settlement changes

REAL-TIME CONGESTION OFFSET

Real-time congestion offset
Step 1 - Real time dispatch is used to resolve load imbalances

PACW

PACE
1000 MW Demand
- 100 MW from ISO
= 900 MW from PACE or PACW

100 MW

ISO
1000 MW Demand
+ 100 MW to PACE
= 1100 MW Dispatch

Real-time congestion offset
Step 2 - Building buckets

PACW

PACE

900 MW X $40 = $36,000

100 MW

ISO
1100 MW X $30 = $33,000

Assume MCC =
$0 PACW
$2 PACE
$4 ISO

Assume
- PACE LMP is $40
- ISO LMP is $30
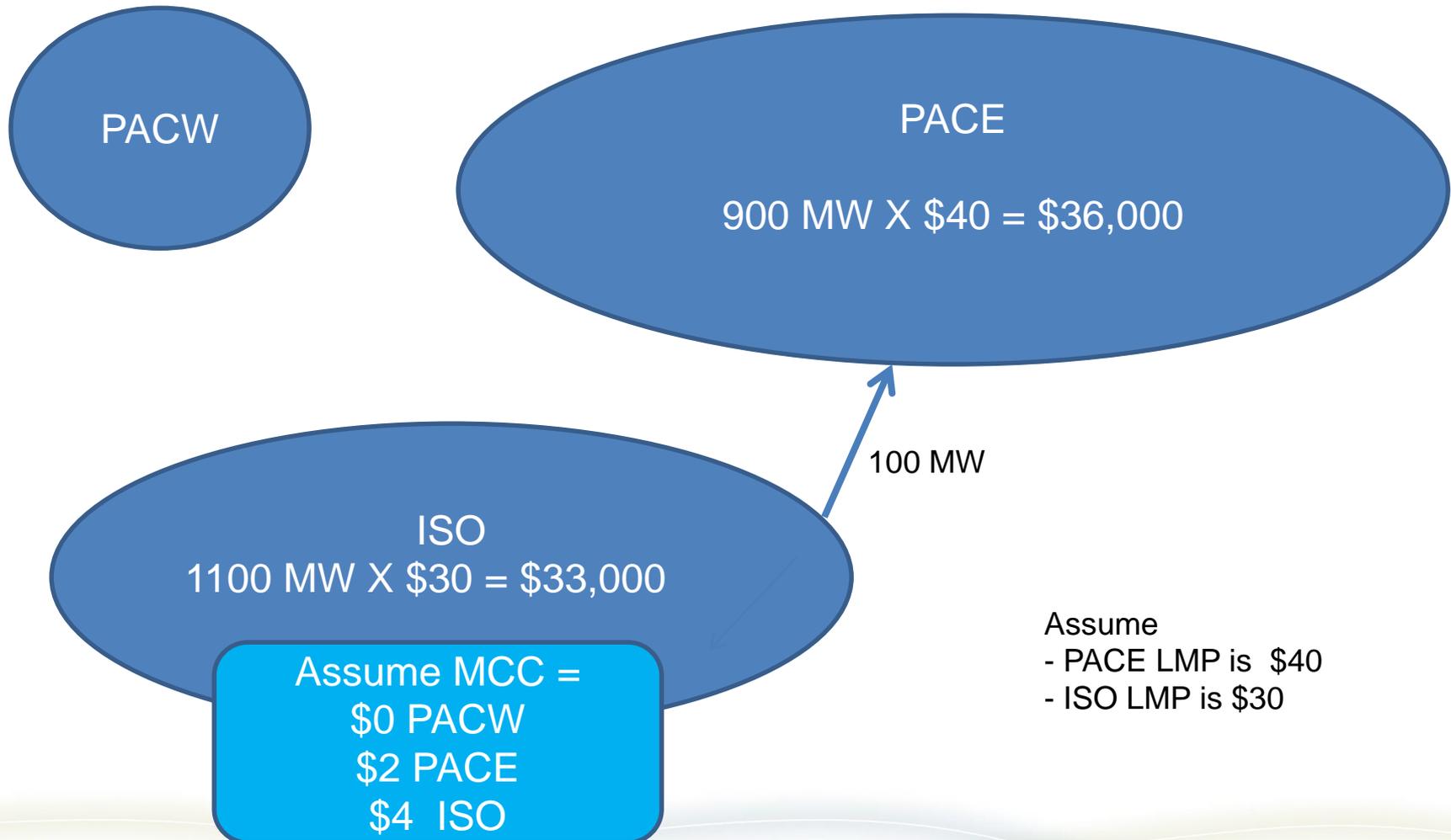
Real-time congestion offset
Step 3 - Congestion settlement (CC 6774, 67740)

ISO
1,100 MW X $30 = $33,000

Assume MCC =
$0 PACW
$2 PACE
$4 ISO
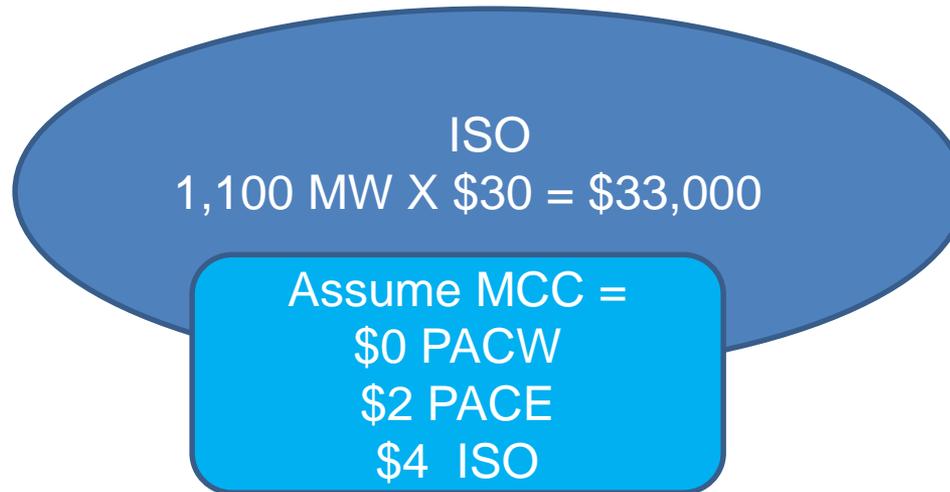
1,100 MW X $0 = $0 PACW
1,100 MW X $2 = $2,200 PACE
1,100 MW X $4 = $4,400 ISO
Total congestion = $6,600
Congestion cost due to ISO's dispatch

California ISO

Allocation

Charge Code 6774
- Allocated to ISO Measured Demand

Charge Code 67740
- Allocated to EIM Entity SC

Key concept – virtual bid adjustment

- "The CAISO Real-Time Congestion Charges less Virtual Bid Adjustment shall be distributed back to non-ETC Control Area metered Demand and exports in Real Time Congestion Offset (CC 6774)"

- If virtual bid causes real time congestion in EIM BAA the Virtual Bid adjustment will be charged to the virtual bidders who caused the congestion

California ISO

EIM settlement changes

REAL-TIME LOSS OFFSET

Key Concepts

- The Real Time Marginal Losses Offset for each BAA is the sum for each BAA of the product of the contribution of that Balancing Authority Area's Transmission Constraints to the marginal loss component of the LMP at each resource location in the EIM Area and the imbalance energy, at that resource

- If energy is all flowing into ISO then all the losses will be part of ISO allocation.

Allocation

| Charge Code 6985 | • Allocated to ISO Measured Demand |
| Charge Code 69850 | • Allocated to EIM Entity SC |

California ISO

EIM settlement changes

REAL-TIME IMBALANCE ENERGY OFFSET

California ISO

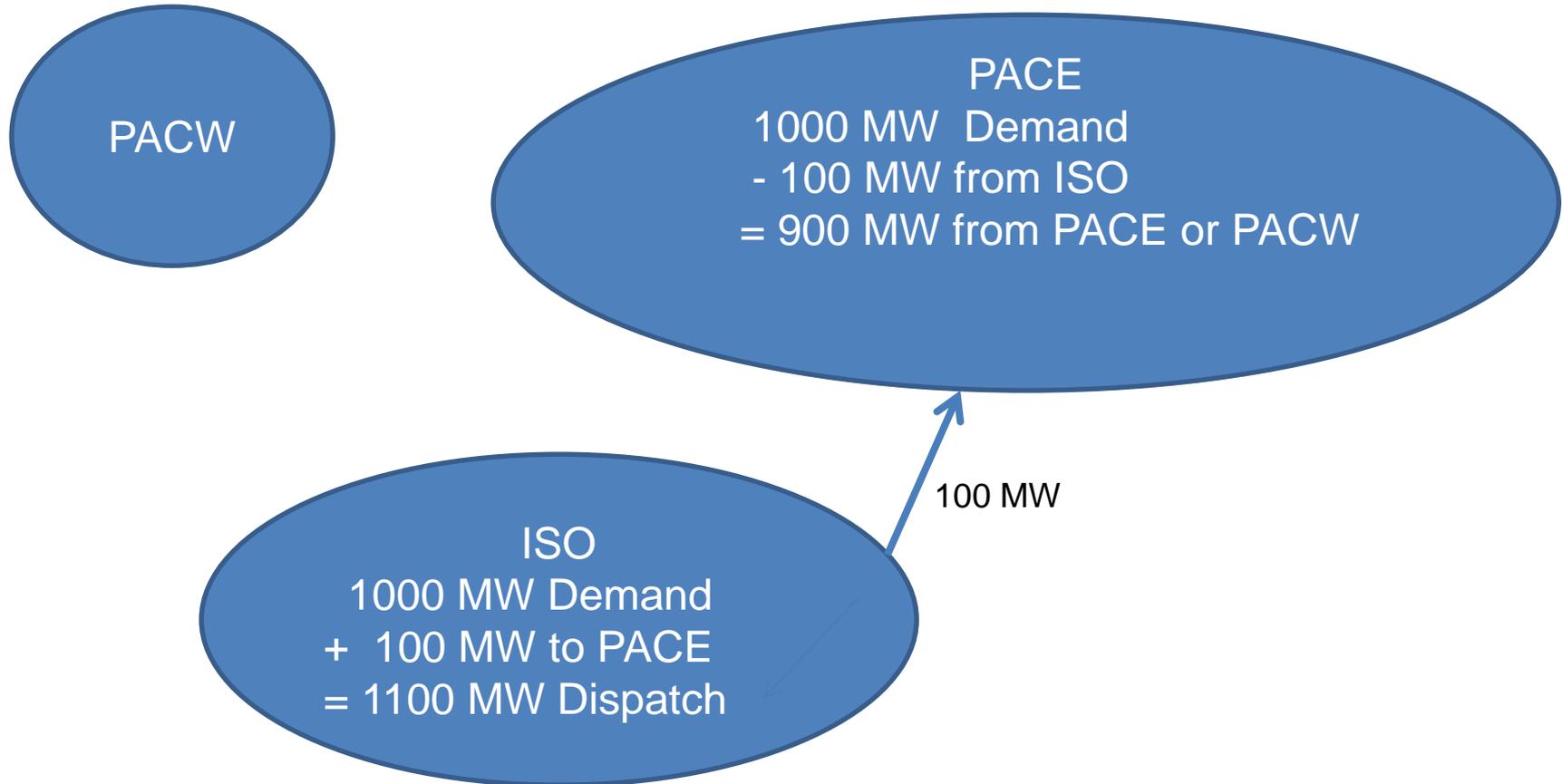# Real-time Imbalance Energy Offset

- Total Energy Imbalance Offset

    = (IIE + UIE + UFE) – Congestion – Losses

    = ((6460 +6470) + 6475) – 6774 – 6474)

                        or

    = ((64600 +64700) + 64750) – 67740 – 64740)

Real-time Imbalance Energy Offset

- Total Energy Imbalance Offset
  - EIM Transfer falls into this bucket
  - Allocated to other BAAs
  - Could be a payment or a charge
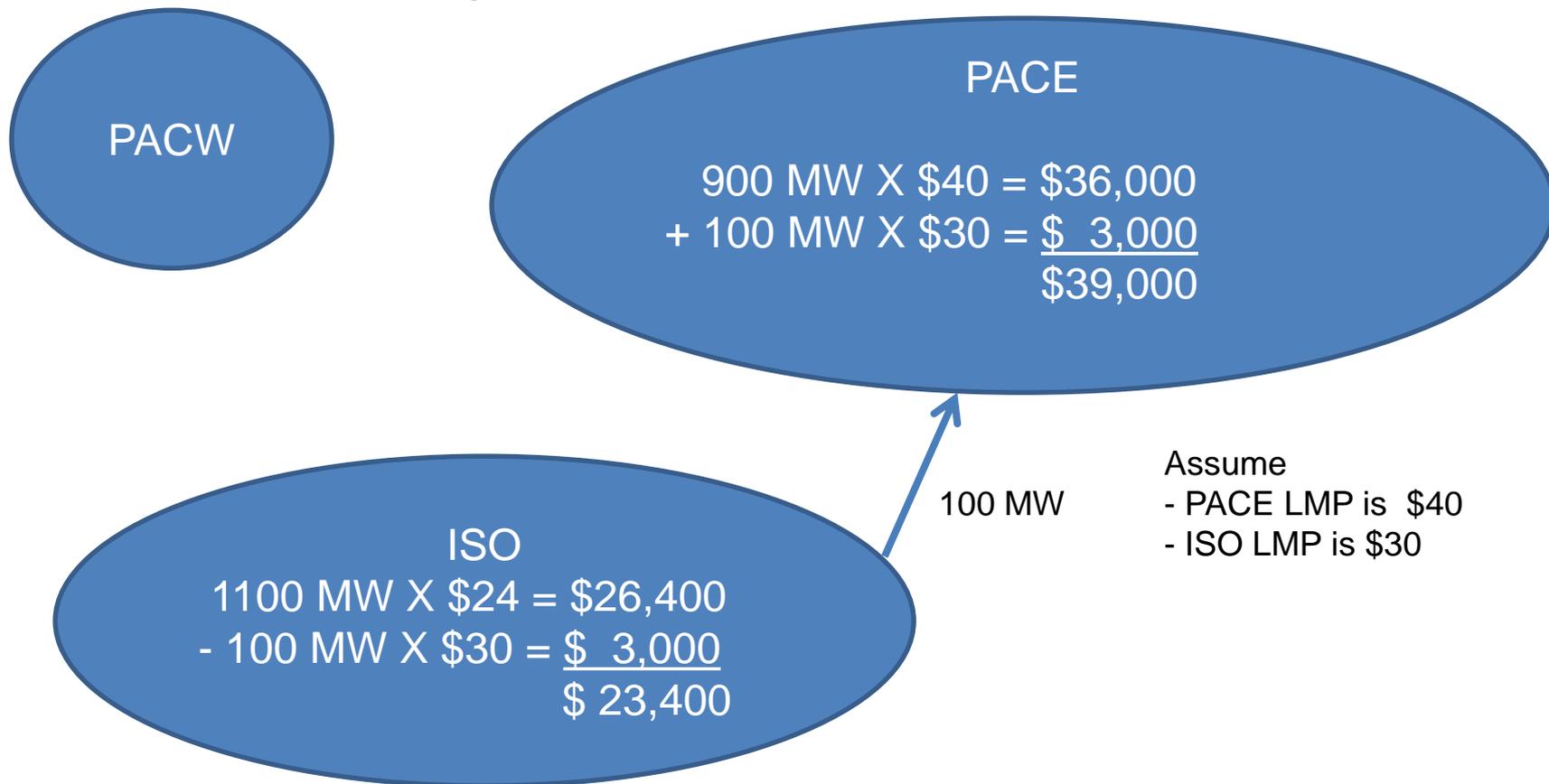
Real-time imbalance energy offset
Step 1 - Real time dispatch is used to resolve load imbalances

PACW

PACE
1000 MW Demand
- 100 MW from ISO
= 900 MW from PACE or PACW

100 MW

ISO
1000 MW Demand
+ 100 MW to PACE
= 1100 MW Dispatch

Real-time imbalance energy offset
Step 2 – Building buckets

PACW

PACE

900 MW X $40 = $36,000
+ 100 MW X $30 = $ 3,000
$39,000

Assume
- PACE LMP is $40
- ISO LMP is $30

100 MW

ISO
1100 MW X $24 = $26,400
- 100 MW X $30 = $ 3,000
$ 23,400

The price for the BA transfer quantity (100 MW) based on the transfer scheduling point ($30)

Determine the total "transfer from" amount

- The total "transfer from" = sum of the absolute value of UIE, UFE and the EIM transfer quantity

MWh	ISO
UIE	90
UFE	5
EIM Transfer Quantity	5
Transfer from	100
Transfer from %	5%

- Transfer Out % x BAA RTIEO = Transfer from amount

$$5\% \times \$23,400 = \$1,170$$

Determine total "transfer to" amount

- The transfer to amount = Sum of transfer from $ * transfer to %

MWh	PACE
UIE	60
UFE	20
EIM Transfer Quantity	20
Transfer to	100
Transfer to %	20%

$1,170 x 20% = $234.00

Questions?

California ISO