



California ISO

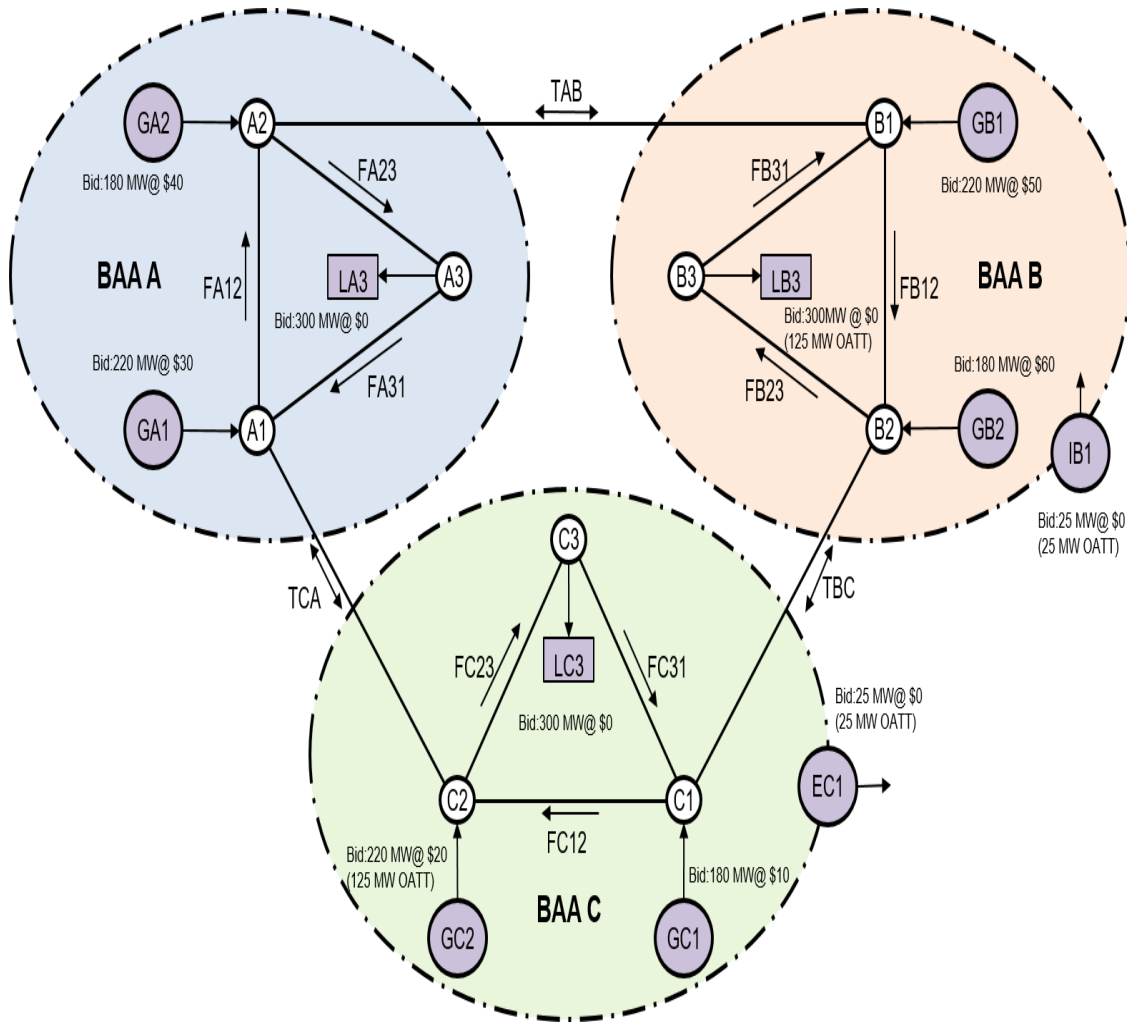
# Extended Day-Ahead Market (EDAM) Congestion Revenue Allocation Initiative - Network Model Example

April 23, 2025

## Addendum Network Model example

- This is an additional addendum example based upon a network model solution
- Designed to be responsive to requests of commenters for additional examples incorporating specific conditions:
  - Wheeling Transaction
  - Transfer Constraint Binding
  - Import/Export schedule from/to a non-EDAM BAA

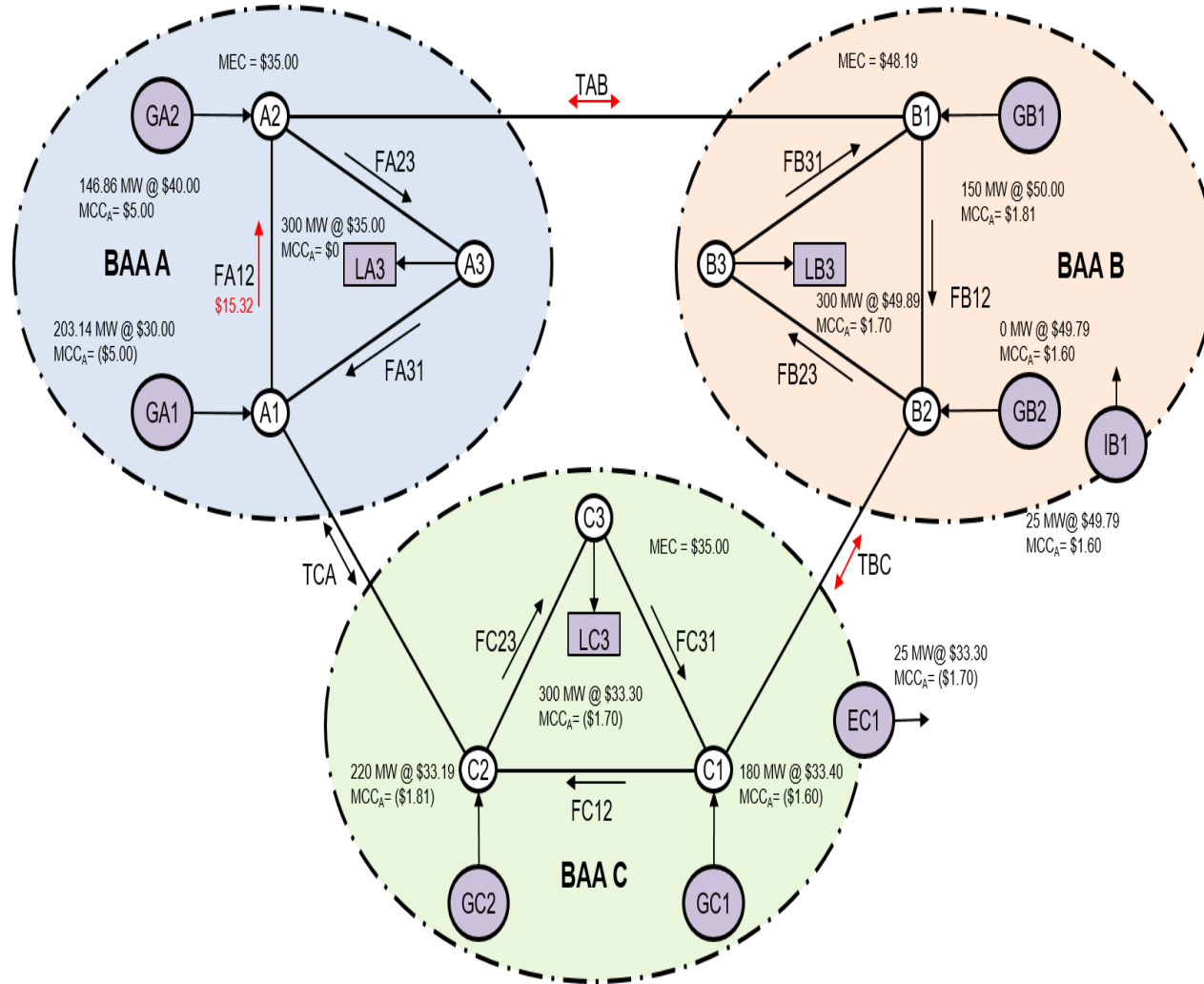
### 3 BAA Network Model with Export/Import – Level set



#### Level Set Assumptions:

- Distributed load reference has equal load distribution factors for the three BAA loads
- BAA B Import priced at the nearest generation location, GB2
- BAA C export priced equivalent to BAA C demand.
- Passed Day Ahead Resource Sufficiency Evaluation
  - Sufficient BAA supply bids to meet BAA demand requirement.
- BAA A constraint, FA12, is physically binding
- BAA B Transfer Constraint is binding in import direction
- Transmission customer submits balanced BAA C self-schedules:
  - 125 MWs OATT supply self-schedule in BAA C
  - 100 MWs OATT export transfer to BAA B
  - 25 MW Intertie export self-schedule.
- Transmission customer submits balanced BAA B self-schedules:
  - 100 MWs OATT Import transfer schedule from BAA C
  - 25 MWs OATT import intertie self-schedule
  - 125 MWs of BAA B OATT Load.

# 3 BAA Network Model with Export/Import Solution



BAA A	Dispatch	LMP STLMT	MCC <sub>A</sub> STLMT	MCC <sub>B</sub> STLMT	MCC <sub>C</sub> STLMT
Gen A1	203.14	\$6,094.15	(\$1,015.69)	\$0.00	\$0.00
Gen A2	146.86	\$5,874.47	\$734.31	\$0.00	\$0.00
Load A	(300)	(\$10,500.00)	\$0.00	\$0.00	\$0.00
TAB	(50)	(\$1,750.00)	\$0.00	\$0.00	\$0.00
<b>NET Settlement</b>		<b>(\$281.38)</b>	<b>(\$281.38)</b>	<b>\$0.00</b>	<b>\$0.00</b>
BAA B	Dispatch	LMP STLMT	MCC <sub>A</sub> STLMT	MCC <sub>B</sub> STLMT	MCC <sub>C</sub> STLMT
Gen B1	150	\$7,500.00	\$271.28	\$0.00	\$0.00
Gen B2	0	\$0.00	\$0.00	\$0.00	\$0.00
Load B (OATT)	(125)	(\$6,236.70)	(\$212.77)	\$0.00	\$0.00
Load B	(175)	(\$8,731.38)	(\$297.87)	\$0.00	\$0.00
Imp B1 (OATT)	25	\$1,244.68	\$39.89	\$0.00	\$0.00
TAB	50	\$2,409.57	\$0.00	\$0.00	\$0.00
TCB	75	\$3,614.36	\$0.00	\$0.00	\$0.00
<b>NET Settlement</b>		<b>(\$199.47)</b>	<b>(\$199.47)</b>	<b>\$0.00</b>	<b>\$0.00</b>
BAA C	Dispatch	LMP STLMT	MCC <sub>A</sub> STLMT	MCC <sub>B</sub> STLMT	MCC <sub>C</sub> STLMT
Gen C1	180	\$6,012.75	(\$287.23)	(\$287.23)	\$0.00
Gen C2 (OATT)	125	\$4,148.93	(\$226.06)	(\$226.06)	\$0.00
Gen C2	95	\$3,153.18	(\$171.81)	(\$171.81)	\$0.00
Load C	(300)	(\$9,989.33)	\$510.64	\$510.64	\$0.00
Exp C1	(25)	(\$832.44)	\$42.55	\$42.55	\$0.00
TBC	(75)	(\$2,624.99)	\$0.00	\$0.00	\$0.00
<b>NET Settlement</b>		<b>(\$131.91)</b>	<b>(\$131.91)</b>	<b>\$0.00</b>	<b>\$0.00</b>

# Congestion Revenue Summary – Import/Export

## Congestion Revenue Collection: \$(612.76)

- A binding constraint in BAA A, F12, causes physical congestion across footprint
- 300 MWs of BAA A Generation schedule to serve 300 MWs of BAA A Load and 50 MWs of BAA B Load
  - Generates \$(366.48) in net Congestion revenue
- 150 MWs of BAA B Generation schedule to serve 125 MWs BAA B Load and 25 MWs BAA C Load
  - Generates \$101.06 in net congestion rent
- 25 MWs of OATT Import schedule to serve 25 MWs of BAA B OATT Load
  - Generates \$(2.66) in net congestion revenue
- 125 MWs of OATT BAA C Generation schedule to serve 100 MWs of BAA B OATT Load and 25 MWs of BAA C OATT Export
  - Generates \$(353.73) in net congestion revenue
- 300 MWs of BAA C Generation schedule to serve 300 MWs BAA C Load and Export
  - Generates \$9.05 in net congestion revenue

# Congestion Revenue Distribution Summary – Import/Export

- Distribution of net \$(612.76) collected Congestion Revenue
  - Current MCC Distribution Approach:
    - BAA where constraint is modeled
  - Original Transitional Approach:
    - BAA where schedules congestion materialized
  - Revised Transitional Approach:
    - OATT Congestion is distributed to EDAM Entity of BAA where balanced schedules congestion materialized
      - BAA B receives (\$172.88) congestion revenue
      - BAA C receives (\$183.51) congestion revenue
    - Remaining Congestion, (\$256.37) congestion revenue is distributed to EDAM Entity of BAA where constraint is modeled

# Network Model Marginal Cost Of Congestion Distribution Comparison

## Current EDAM Design Marginal Cost of Congestion Distribution

MCC OFFSET	MCC <sub>T</sub>	MCC <sub>A</sub> OFFSET	MCC <sub>B</sub> OFFSET	MCC <sub>C</sub> OFFSET
BAA <sub>A</sub> MCC Total	(\$281.38)	(\$281.38)	\$ -	\$ -
BAA <sub>B</sub> MCC Total	(\$199.47)	(\$199.47)	\$ -	\$ -
BAA <sub>C</sub> MCC Total	(\$131.91)	(\$131.91)	\$ -	\$ -
Overall STLMT	(\$612.76)	(\$612.76)	\$ -	\$ -
Congestion Allocation	\$612.76	\$612.76	\$ -	\$ -

## Transitional Alternative of Marginal Cost of Congestion Distribution (Issue Paper)

MCC OFFSET	MCC <sub>T</sub>	MCC <sub>A</sub> OFFSET	MCC <sub>B</sub> OFFSET	MCC <sub>C</sub> OFFSET
BAA <sub>A</sub> MCC Total	(\$281.38)	(\$281.38)	\$ -	\$ -
BAA <sub>B</sub> MCC Total	(\$199.47)	\$ -	(\$199.47)	\$ -
BAA <sub>C</sub> MCC Total	(\$131.91)	\$ -	\$ -	(\$131.91)
Overall STLMT	(\$612.76)	(\$281.38)	(\$199.47)	(\$131.91)
Congestion Allocation	\$612.76	\$281.38	\$199.47	\$131.91

## Refined Alternative Marginal Cost of Congestion Distribution (Draft Final Proposal)

MCC OFFSET	MCC <sub>T</sub>	MCC <sub>A</sub> OFFSET	MCC <sub>B</sub> OFFSET	MCC <sub>C</sub> OFFSET
BAA <sub>A</sub> MCC Total	(\$281.38)	(\$281.38)	\$0.00	\$0.00
BAA <sub>B</sub> MCC Total	(\$199.47)	(\$26.59)	(\$172.88)	\$0.00
BAA <sub>C</sub> MCC Total	(\$131.91)	\$51.60	\$0.00	(\$183.51)
Overall STLMT	(\$612.76)	(\$256.37)	(\$172.88)	(\$183.51)
Congestion Allocation	\$612.76	\$256.37	\$172.88	\$183.51

# Transfer Revenue Summary – Import/Export

- BAA B Net Transfer Constraint binds in the import direction
- Marginal energy cost (MEC) separation between BAA B and other BAAs
  - BAA A and BAA C MEC = \$35.00/MWs
  - BAA B MEC = \$48.19/MWs
- 50 MWs net Transfer from BAA A to BAA B
- 75 MWs net Transfer from BAAC to BAA B

Transfer Revenue Collection				
	BAA A`	BAA B	BAA C	Net STLMT
TAB	\$1,750.00	(\$2,409.57)		(\$659.57)
TBC		\$0.00	\$0.00	\$0.00
TCA	\$0.00		\$0.00	\$0.00
TBA	\$0.00	\$0.00		\$0.00
TCB		(\$3,614.36)	\$2,624.99	(989.37)
TAC	\$0.00		\$0.00	\$0.00
<b>Net STLMT</b>	<b>\$1,750.00</b>	<b>(\$6,023.93)</b>	<b>\$2,624.99</b>	<b>(\$1,648.94)</b>

Transfer Revenue Distribution				
	BAA A`	BAA B	BAA C	Net STLMT
TAB	(\$329.79)	(\$329.79)		(\$659.57)
TBC		\$0.00	\$0.00	\$0.00
TCA	\$0.00		\$0.00	\$0.00
TBA	\$0.00	\$0.00		\$0.00
TCB		(\$494.68)	(494.68)	(989.37)
TAC	\$0.00		\$0.00	\$0.00
<b>Net Transfer Revenue</b>	<b>(\$329.79)</b>	<b>(\$824.47)</b>	<b>(\$484.68)</b>	<b>(\$1,648.95)</b>