

EDAM Transfer Reliability

Day-Ahead and Real-Time impacts

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Overview

- The following examples are intended to show how firm transfers from EDAM might resolve in Real-Time
- These examples are constructed to highlight reliability, and ARE NOT structured to identify economics of reliability
- All examples are structured with three balancing areas to highlight how wheel-through and other transfers across a balancing area affect each other
 - Not intended to be commentary on other wheel-through issues
- Does not address role of reserve sharing groups

Examples to be Reviewed

- EDAM Transfers w/ Real-Time loss of Generation
- EDAM Transfers w/ Real-Time loss of Generation
 - Resulting in Insufficient footprint capacity
- EDAM Transfers w/ Real-Time loss of Generation
 - Decommitted long-lead resources
 - Resulting in insufficient footprint capacity

Basic Footprint Setup for Examples



EDAM Participating Capacity:
1,000 MW



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1,000 MW

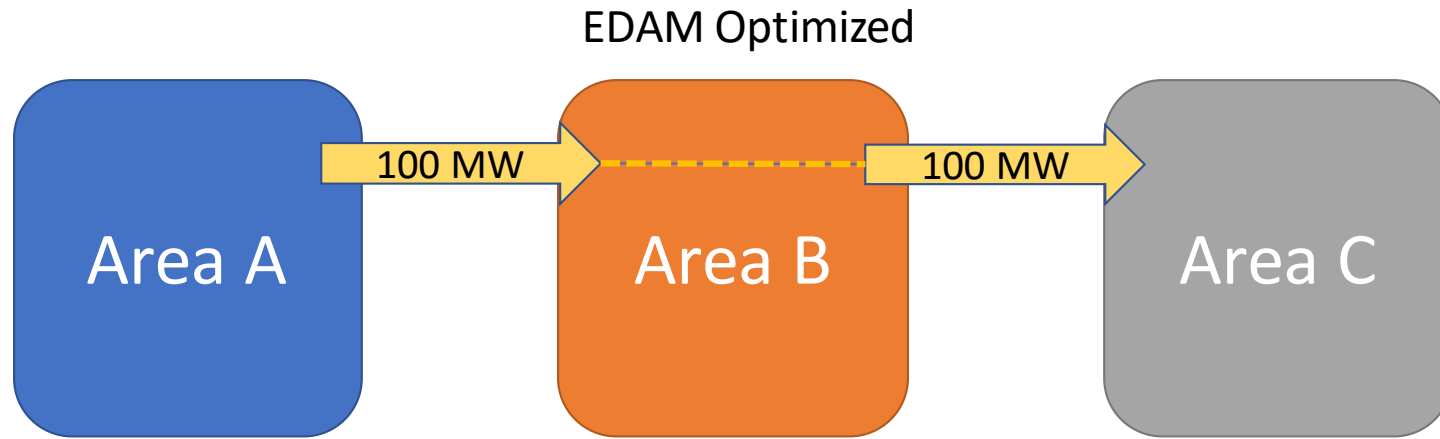
Example 1: Real-Time Loss of Generation

Pre-EDAM Plan



Avail. Capacity	1,000 MW	1,000 MW	1,000 MW	3,000 MW
DA Load+Reserve	850 MW	930 MW	995 MW	2,775 MW
Remaining	150 MW	70 MW	5 MW	225 MW

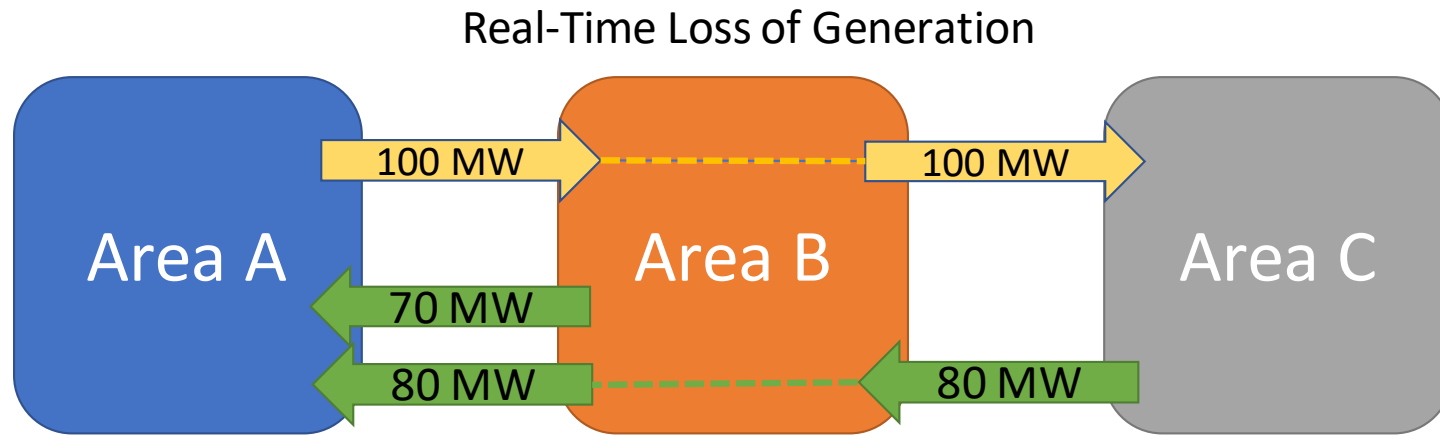
Example 1: Real-Time Loss of Generation (Cont'd)



Footprint Summary

Avail. Capacity	1,000 MW	1,000 MW	1,000 MW	3,000 MW
DA Load+Reserve	850 MW	930 MW	995 MW	2,775 MW
EDAM Transfer	+100 MW	+100/-100 MW	-100 MW	
Requirements	850 950 MW	930 MW	995 895 MW	2,775 MW
Remaining	50 MW	70 MW	105 MW	225 MW

Example 1: Real-Time Loss of Generation (Cont'd)



Footprint Summary

Avail. Capacity	1,000 MW → 800	1,000 MW	1,000 MW	2,800 MW
DA Load+Reserve	850 MW	930 MW	995 MW	2,775 MW
<i>EDAM Transfer</i>	<i>+100 MW</i>	<i>+100/-100 MW</i>	<i>-100 MW</i>	
Requirements	950 MW	930 MW	895 MW	2,775 MW
RT Dispatch	+50 MW	+70 MW	+80 MW	25 MW
RT Market Xfer	+150 MW	-150/+80 MW	-80 MW	
Remaining	0 MW	0 MW	25 MW	25 MW

Example 1: Key Takeaways

- Firm transfers have implications in real-time to both buyers and sellers

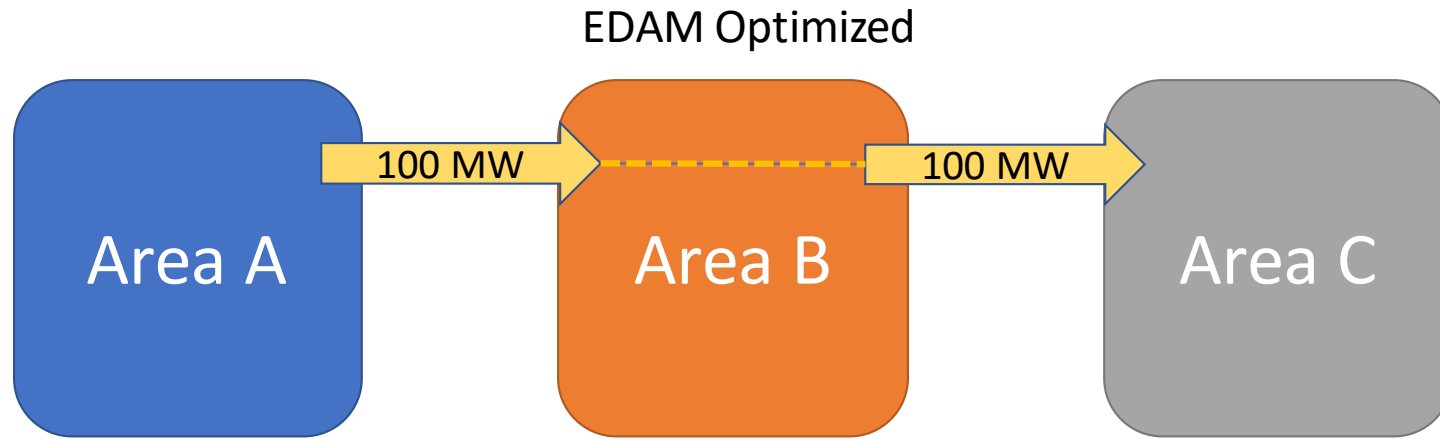
Example 2: Real-Time Loss of Generation – Insufficient Capacity across Footprint

Pre-EDAM Plan



Avail. Capacity	1,000 MW	1,000 MW	1,000 MW	3,000 MW
DA Load+Reserve	850 MW	930 MW	995 MW	2,775 MW
Remaining	150 MW	70 MW	5 MW	225 MW

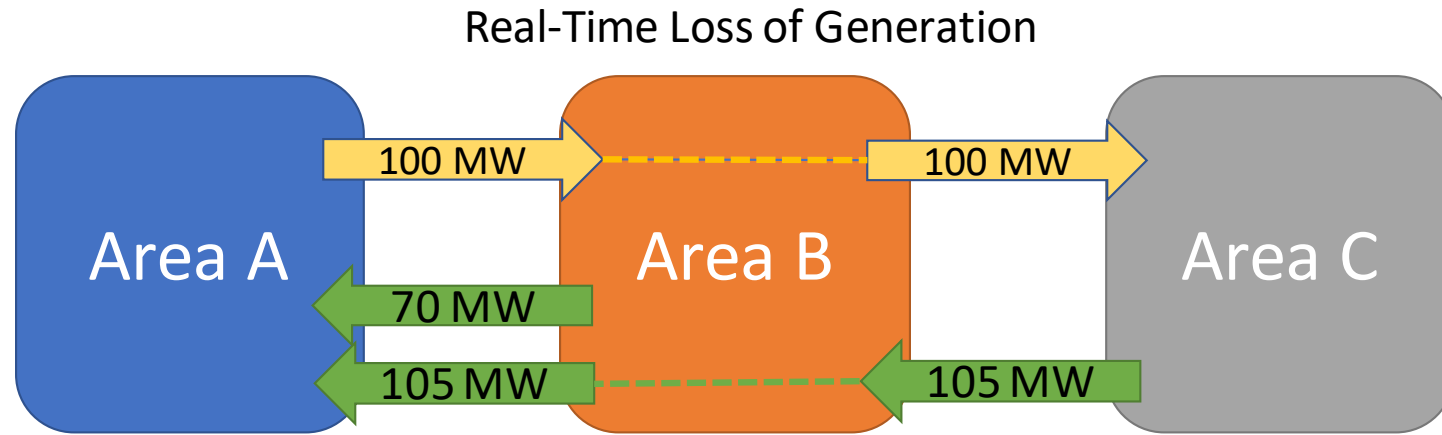
Example 2: Real-Time Loss of Generation – Insufficient Capacity across Footprint (Cont'd)



Footprint Summary

Avail. Capacity	1,000 MW	1,000 MW	1,000 MW	3,000 MW
DA Load+Reserve	850 MW	930 MW	995 MW	2,775 MW
EDAM Transfer	+100 MW	+100/-100 MW	-100 MW	
Requirements	850 950 MW	930 MW	995 895 MW	2,775 MW
Remaining	50 MW	70 MW	105 MW	225 MW

Example 2: Real-Time Loss of Generation – Insufficient Capacity across Footprint (Cont'd)



Footprint Summary

Avail. Capacity	1,000 MW → 750	1,000 MW	1,000 MW	2,750 MW
DA Load+Reserve	850 MW	930 MW	995 MW	2,775 MW
EDAM Transfer	+100 MW	+100/-100 MW	-100 MW	
Requirements	950 MW	930 MW	895 MW	2,775 MW
RT Dispatch	+50 MW	+70 MW	+80 MW	-25 MW
RT Market Xfer	+175 MW	-150/+80 MW	-80 MW	
Remaining	-25 MW	0 MW	0 MW	-25 MW

Example 2: Key Takeaways

- EDAM transfers remain firm to Balancing Area B and Balancing Area C
- To support, RT (EIM) transfers must flow available capacity from Balancing Areas B and C back to Balancing Area A
- Balancing Area A
 - Retains consequences of failure of resource bid into EDAM
 - Maintained firm transfers
- Balancing Areas B & C
 - Responded with available capacity to minimize curtailed load

Example 3: Long-Lead Decommit by EDAM, Real-Time Loss of Generation – Insufficient Capacity across Footprint

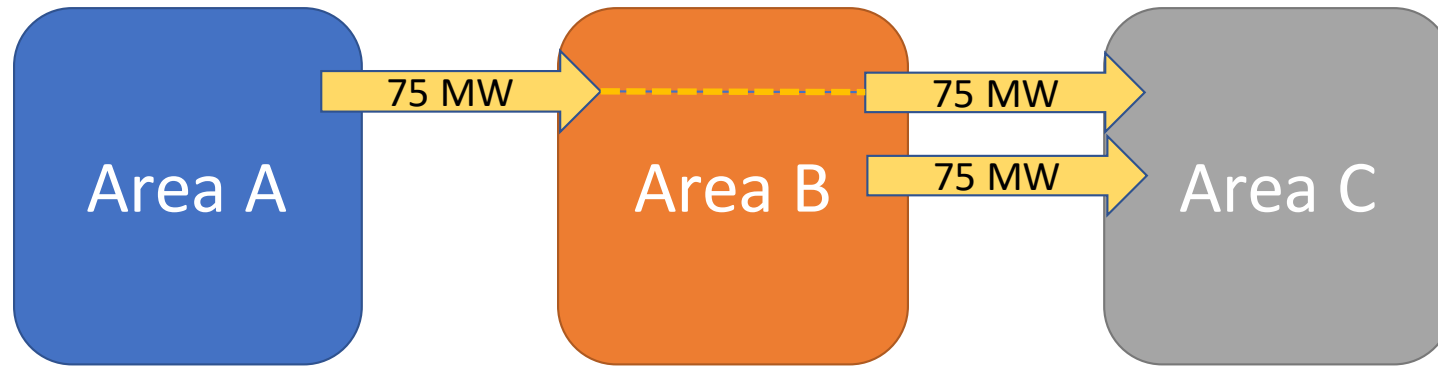
Pre-EDAM Plan



Avail. Capacity	1,000 MW	1,000 MW	1,000 MW	3,000 MW
DA Load+Reserve	850 MW	900 MW	900 MW	2,650 MW
Remaining	150 MW	100 MW	100 MW	350 MW

Example 3: Long-Lead Decommit by EDAM, Real-Time Loss of Generation – Insufficient Capacity across Footprint (Cont'd)

EDAM Optimized

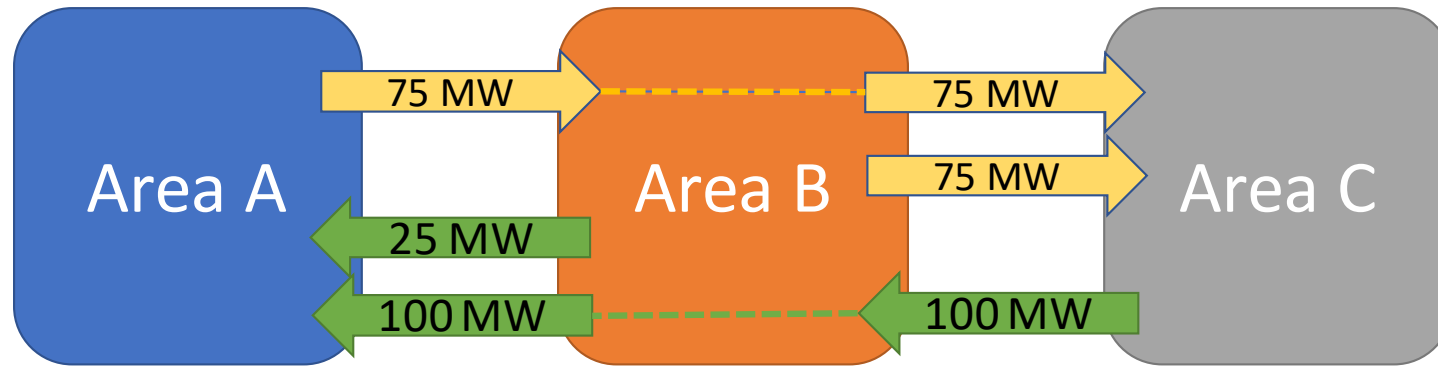


Footprint Summary

Avail. Capacity	1,000 MW	1,000 MW	1,000 MW → 850 MW	2,850 MW
DA Load+Reserve	850 MW	900 MW	900 MW	2,650 MW
EDAM Transfer	+75 MW	-75/+150 MW	-150 MW	
Requirements	850 925 MW	900 975 MW	900 750 MW	2,650 MW
Remaining	75 MW	25 MW	100 MW	200 MW

Example 3: Long-Lead Decommit by EDAM, Real-Time Loss of Generation – Insufficient Capacity across Footprint (Cont'd)

Real-Time Loss of Generation



Footprint Summary

Avail. Capacity	1,000 MW → 750	1,000 MW	1,000 MW → 850 MW	2,600 MW
DA Load+Reserve	850 MW	900 MW	900 MW	2,650 MW
EDAM Transfer	+75 MW	-75/+150 MW	-150 MW	
Requirements	850 925 MW	900 975 MW	900 750 MW	2,650 MW
RT Dispatch	0 MW	+25 MW	+100 MW	-50 MW
RT Market Xfer	+125 MW	+125/-100 MW	-100 MW	
Remaining	-50 MW	0 MW	0 MW	-50 MW

Example 3: Key Takeaways

- EDAM transfers remain firm to Balancing Area B and Balancing Area C
- To support, RT (EIM) transfers must flow available capacity from Balancing Areas B and C back to Balancing Area A
- Balancing Area A
 - Retains consequences of failure of resource bid into EDAM
 - Maintained firm transfers
- Balancing Areas B & C
 - Responded with available capacity to minimize curtailed load
- Balancing Area C
 - Held harmless for long-lead resource decommitment