



January 13, 2021

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# EIM Resource Sufficiency

## CAISO Summer 2021 Readiness Workshop

Supply. Flexibility. Commitment.

# Summary of Concerns Raised by EIM Entities

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- EIM Entity comments:
  - “The EIM Entities want to work with the CAISO and other stakeholders to assess whether the RS test worked as designed, and further, if it worked to support the principle that each BAA within the EIM is expected to come into the market fully resourced so as to avoid leaning on other EIM Entity BAAs.”
  - “It is foundational for each EIM Entity BAA to meet its fundamental reliability obligations that it retains independent of the EIM. Based on further assessment, we expect the details and ultimate recommendations of any refinements to be determined through a future stakeholder process.”
- The following presentation reflects **Powerex’s perspective** on EIM Resource Sufficiency

# Why is Resource Sufficiency Important?

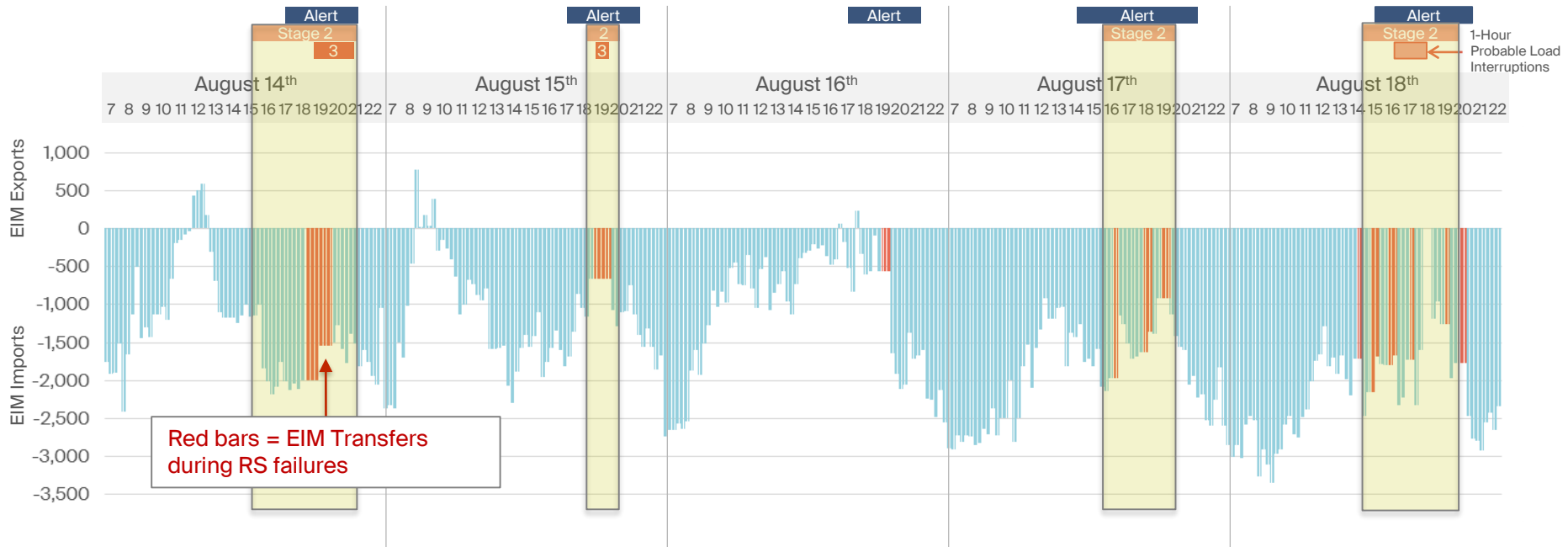
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- A well-designed RS framework is critical to ensuring each BAA has enough supply to meet its own needs on a stand-alone basis
- Supports **reliability**
  - Ensures the footprint as a whole is resource sufficient
  - Prevents a shortfall in one BAA from adversely impacting another
- **Prevents leaning** on capacity and flexibility
  - Ensures entities that are short do not avoid/reduce forward procurement from others
  - Supports equitable sharing of diversity benefits

***Fundamental question: is the EIM RS Test meeting these objectives?***

# EIM Transfers to CAISO BAA During August Heatwave

## August 14<sup>th</sup> -18<sup>th</sup>



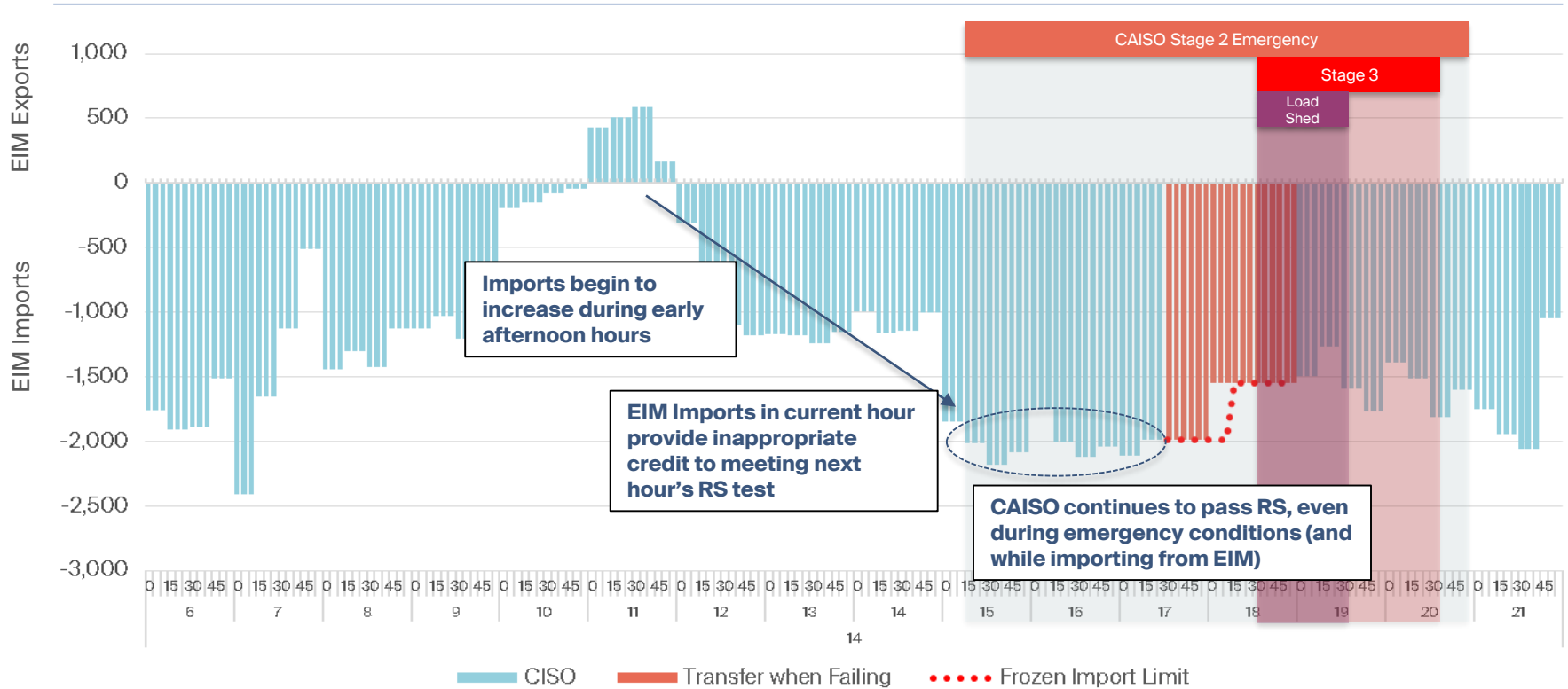
- Two outcomes during August heatwave illustrate capacity issues with existing RS framework:
- 1) CAISO BAA continued passing RS, even during emergency conditions
  - 2) CAISO BAA received continued EIM imports, even during RS failures

# EIM Resource Sufficiency Challenges

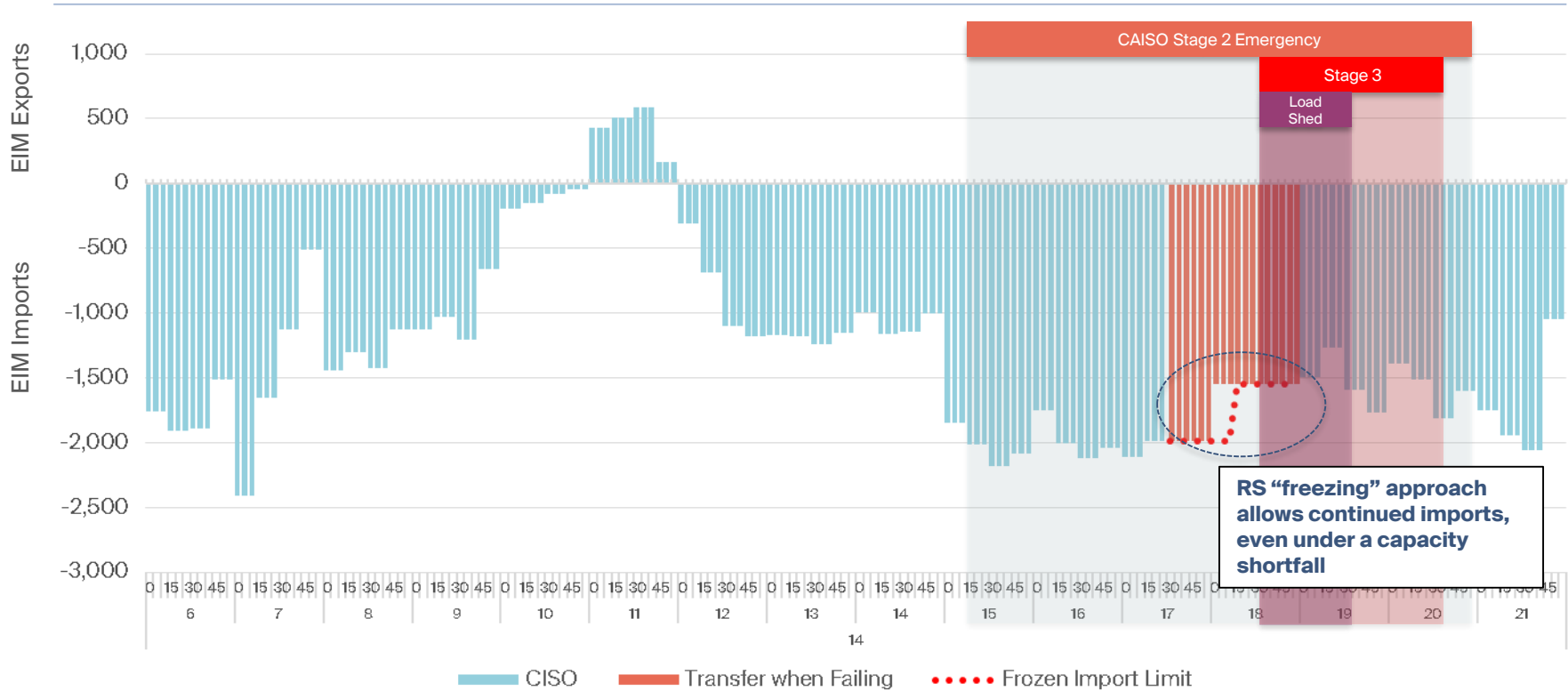
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1. There is no comprehensive capacity test of ability to meet all BAA obligations
2. Supply that is **not real and/or not capable of performing** is included in the test
  - a) Imports without a physical resource or transmission identified
  - b) Internal resources incapable of performing at their RS showing level
3. Prior-hour EIM Imports provide inappropriate credit towards meeting next hour's EIM flex test
  - Does not measure an importing BAA's stand-alone capability to meet its own obligations
4. Failure consequences allow continued EIM imports even during failure periods
  - Any BAA that is importing in advance of an RS failure can continue to import, even during capacity shortfalls
  - Does this undermine incentives to pass the RS test?

# EIM Imports to CAISO BAA: Friday August 14, 2020



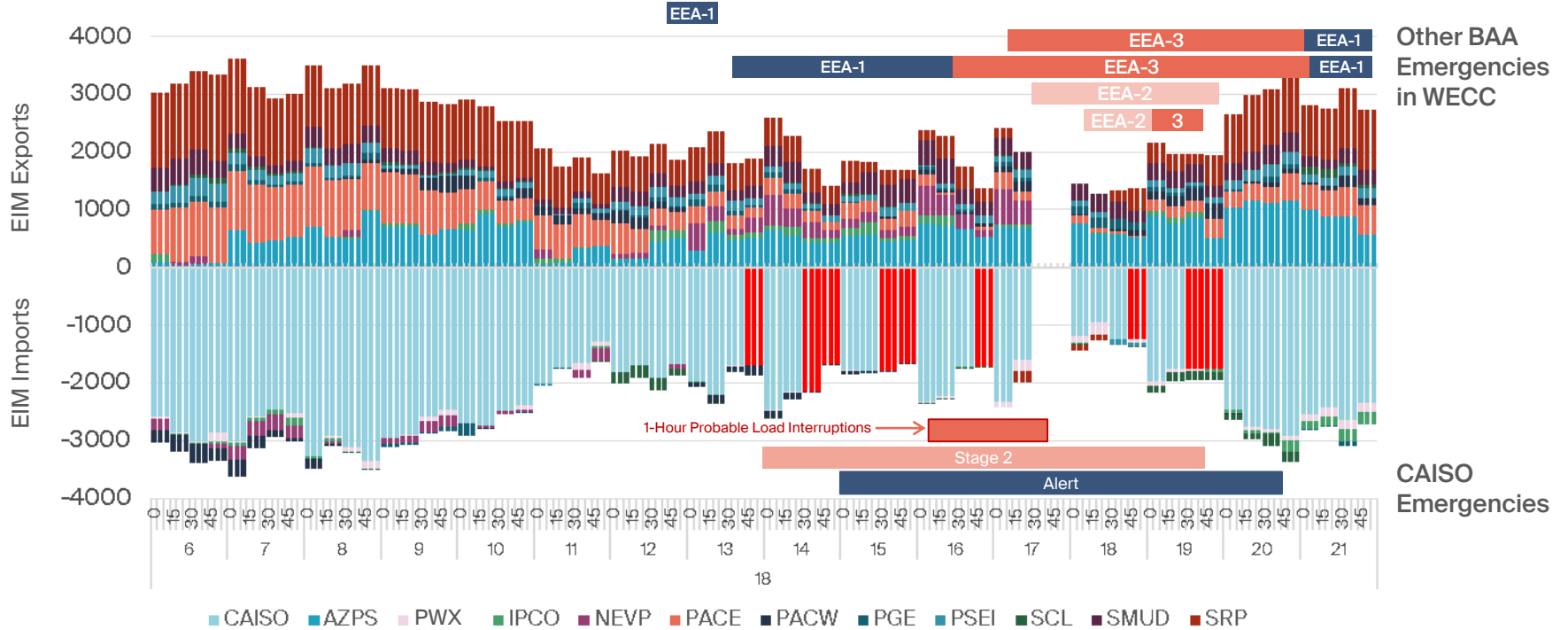
# EIM Imports to CAISO BAA: Friday August 14, 2020



Source: CAISO OASIS (EIM Transfers in FMM)

# Examining EIM Transfers During Reliability Challenges

## August 18<sup>th</sup>, 2020 (Peak Load in WECC)





# Examining EIM Transfers During Reliability Challenges

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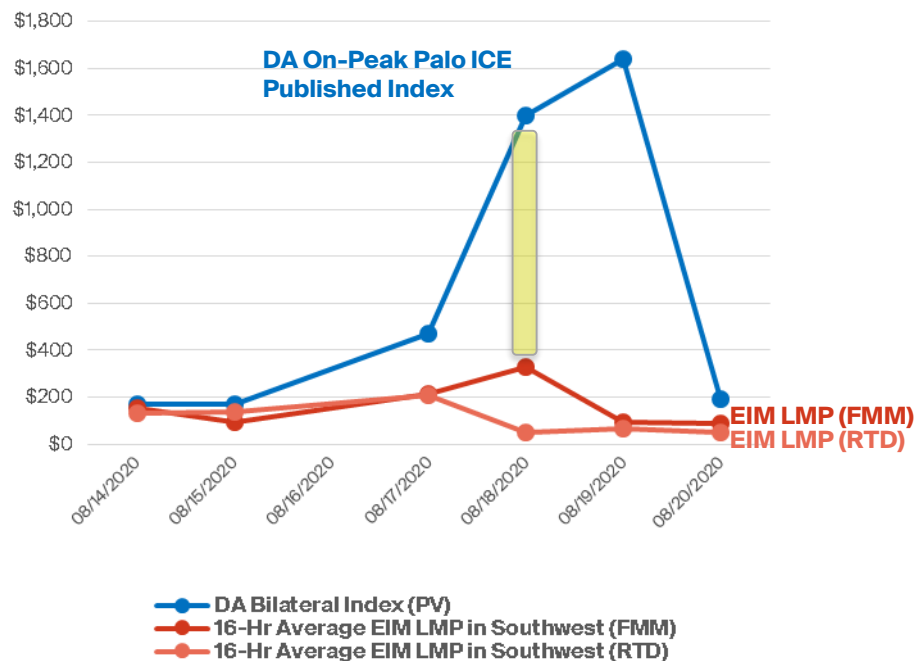
- Many EIM Entities were also facing record loads and challenging system conditions during August heat wave
- Numerous EEA alerts, emergency purchases, and reserve sharing deployments
- EIM Entities can choose to manually “disconnect” their EIM transfer capability if required to address a reliability concern
  - But BAA operators likely to be extremely busy during these periods
- Should **an automated method** be added to prevent EIM exports from BAAs during emergency conditions?

# Economic Consequences of EIM Capacity Leaning

## Day Ahead vs EIM

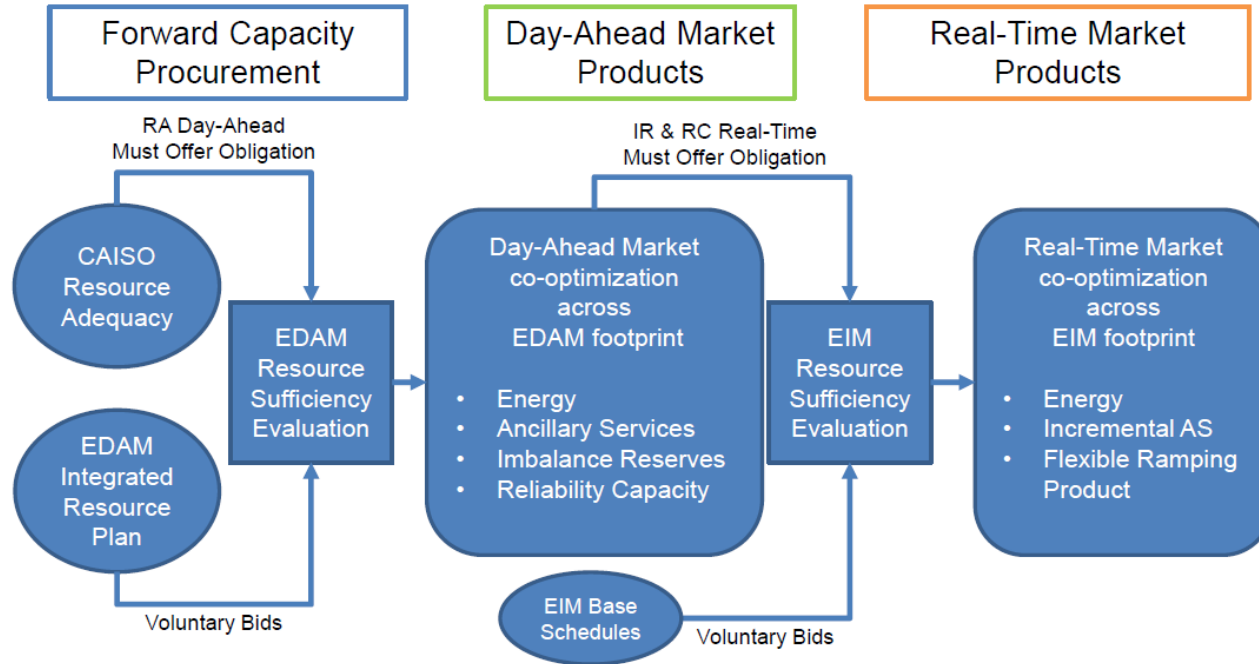
- EIM Entities purchase bilateral firm energy to meet their own RS requirements
  - Forward and day-ahead bilateral purchases of 16-hour blocks
  - Elevated bilateral prices during heat wave (particularly in Southwest region)
  - Only to have those purchases re-exported in the EIM in critical hours at a much lower price
- Inappropriately results in large losses for some EIM Entities
  - Aug 18: 500 MW of DA purchases re-exported in EIM would result in a **\$8 million loss**

Average On-Peak Prices in Southwest Region



# Economic Consequences of EIM Capacity Leaning

## Insufficient Incentives for Forward Capacity Procurement



An ineffective EIM RS framework undermines the incentives for any BAA to address its RA/IRP capacity sufficiency

# Economic Consequences of EIM Capacity Leaning

## Insufficient Incentives for Forward Capacity Procurement

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- The current EIM RS framework provides insufficient incentives for forward capacity procurement
- It is more economic to rely on EIM on critical days (and in critical hours) than to solve capacity shortfall through long-term contracting
- What is the economic consequences of not forward contracting and not being resource sufficient and still being able to import from the EIM?

# Potential Solutions for EIM Resource Sufficiency

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- RS Test enhancements before Summer 2021 should include:
  1. A straightforward (and accurate) hourly capacity test
  2. Solutions for EIM transfers during stressed system conditions
    - Add improved automation to allow deficient BAAs to limit EIM exports
    - Consider financial consequences (instead of transfer limits) for deficient BAAs that receive EIM imports
  3. Improved oversight and reporting to the EIM Governing Body to ensure the RS test is accurate and being applied equitably to all BAAs
- An accelerated stakeholder process with implemented enhancements before Summer 2021 is necessary to address RS

# Comprehensive Capacity Test

## SUPPLY

Imports must be identifiable at the time of the test (e.g., via e-Tag)

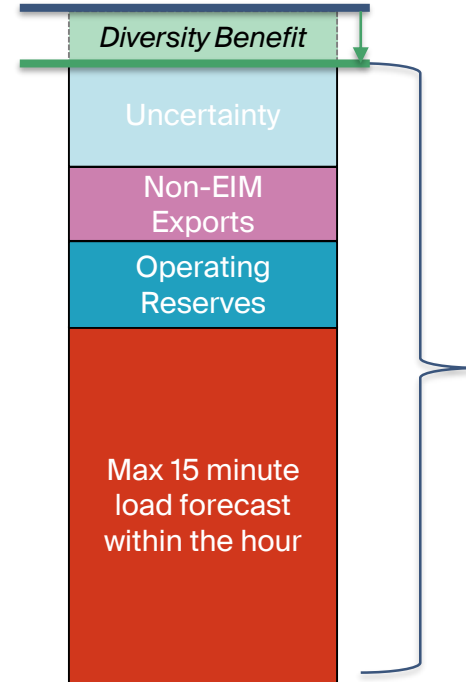


### #1 technical issue

Supply must be real and **capable of performing** at the shown level

VS

## DEMAND



**All** requirements should be included in one comprehensive capacity test

# EIM RS Failure Consequences

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- Failure consequences must provide sufficient incentives to resolve capacity shortfalls ahead of time
- EIM Imports during RS failures
  - Is it possible to address RS failures in a manner that provides sufficient incentive to resolve shortfalls in advance, but still allows a deficient BAA to receive EIM Imports if supply is available in other BAAs?
- Powerex proposes a new financial consequence for RS failures
  - BAAs that fail the RS test face a higher cost for leaning on EIM Imports for capacity
  - Provide a sufficient price signal within the resource-deficient BAA for forward procurement
- Would provide a measure of protection to other EIM BAAs
  - Ensures failing BAAs would deploy their own resources first before relying on EIM imports
  - Would protect other EIM BAAs from price spikes created by deficient BAAs

# EIM RS Failure Consequences

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- Define a Deficiency Transfer Limit for each failing BAA
  - **Capacity Test failure:** Set Deficiency Transfer Limit to 0 MW
  - **Flexible Ramping Test failure:** Set Deficiency Transfer Limit to current import (same as today)
- Consider allowing Deficiency Transfer Limit to be relaxed, but at penalty price of \$2,000/MWh
  - Price would not automatically rise to \$2,000 in deficient BAA (*i.e.*, would still deploy internal resources first)
  - But leaning on EIM area for additional imports (beyond Deficiency Transfer Limit) would result in \$2,000/MWh price in the failing BAA
- Repeat Capacity Test failures should require a report to EIM Governing Body
  - Description of failure and actions to be taken to avoid in the future
- Other/additional measures may be needed





# Thank You

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