OMS Resource Adequacy Summit

05-15-2023

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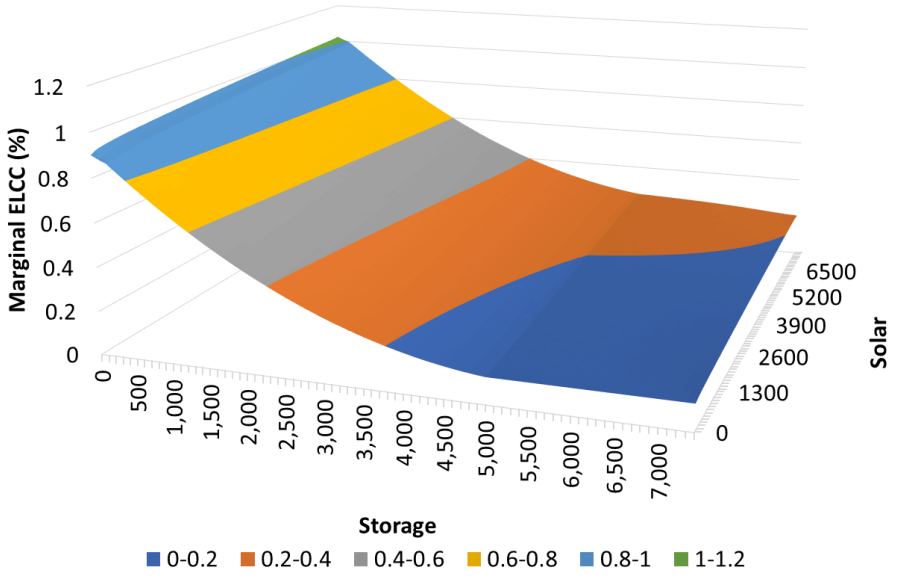
RA Considerations in Expansion Planning

- Typical Approach to RA in Expansion Planning
  - Impose Reserve Margin Requirement
  - Accredit Resources with Declining ELCC
- Challenges
  - Interactions among and within resource classes
    - Batteries/PSH/DR/Solar/Wind
    - Configuration
  - Load growth and changes to composition affects ELCC
    - EV/Data Centers/Price Responsive Load
  - Reliability vs Economic Commitment Heuristics

- Proposal: Use SERVM to endogenously consider reliability when selecting resources
  - PRM is an output, not input
  - ELCC is an output, not input
  - Solve directly for reliability standard



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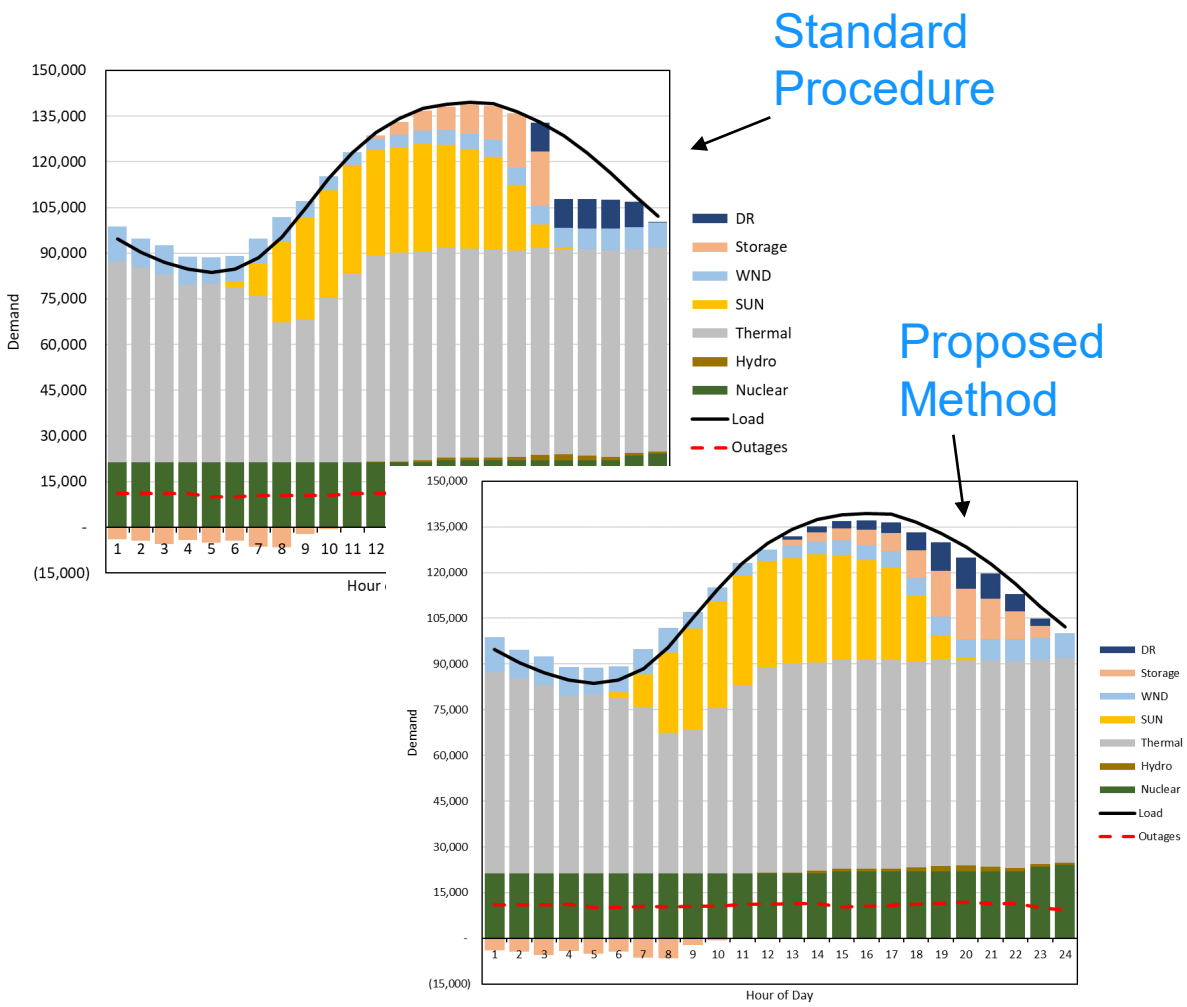
Capacity Accreditation in High Storage Penetrations



- Observation: Mimicking standard operating procedures would yield 100% EUE benefit for DR but 0% for storage despite equal energy constraints
- Proposal: Force energy limited dispatch to shave peak rather than satisfy capacity shortfalls
- Benefit: Properly credits the reliability contribution of energy during critical hours

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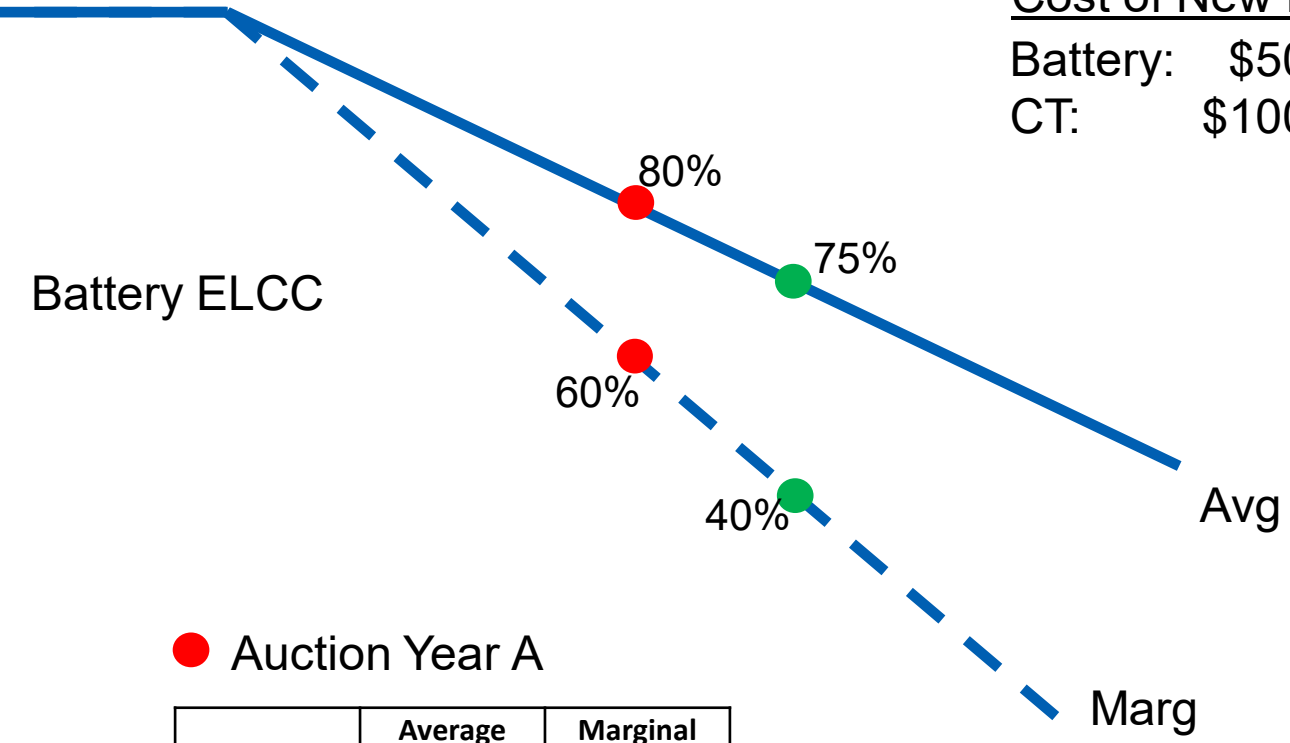
Implications of Marginal ELCC Accreditation for Price-Making Resources



Cost of New Entry

Battery: $50/kw-yr

CT: $100/kw-yr

Auction Year A

	Average	Marginal
CT	$100.0	$100.0
Battery*	$62.5	$83.3
Marginal Resource	Battery	Battery
Clearing Price	$62.5	$83.3
System Cost ($B)	$6.3	$8.1
LOLE	0.1	0.1

Auction Year B

	Average	Marginal
CT	$100.0	$100.0
Battery*	$66.7	$125.0
Marginal Resource	Battery	CT
Clearing Price	$66.7	$100.0
System Cost ($B)	$6.7	$9.5
LOLE	0.1	0.1

Effective capacity price after discounting by ELCC

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