

Session 6B

Resource Adequacy

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Salt River Project| Innovation & Development

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Slate of Resource Adequacy (RA) Presentations

Five 15-minute presentations

- **Julie Jin**, ERCOT, Resource Adequacy in ERCOT
- **Jon Cook**, Salt River Project (SRP), Climate Change Implications for RA in US SW
- **Todd Levin**, Argonne National Lab (ANL), RA under System Transformation
- **Selin Yanikara**, Enelytix, Zonal vs Nodal Reliability Analysis in NYISO
- **Max Muller**, Transnet BW GmbH, Cause Evaluation of Load Loss Hours Monte-Carlo

All Q&A at the end of the presentations during the panel discussion

ESIG Resources (<https://www.esig.energy/system-operation-working-group/>)

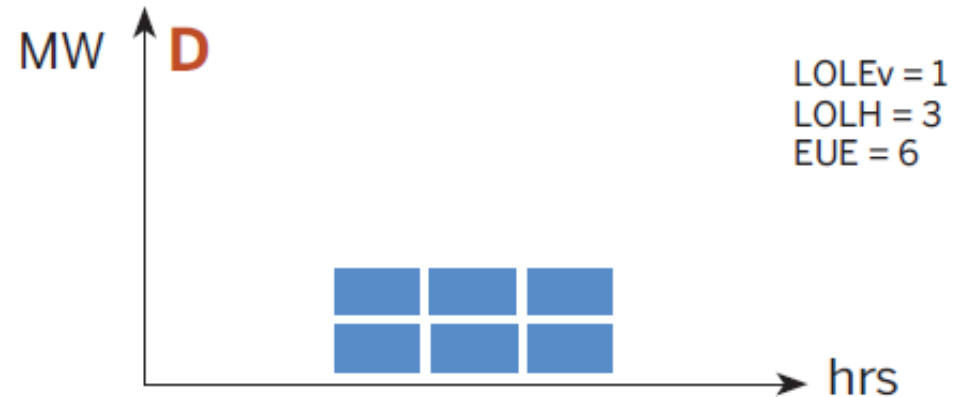
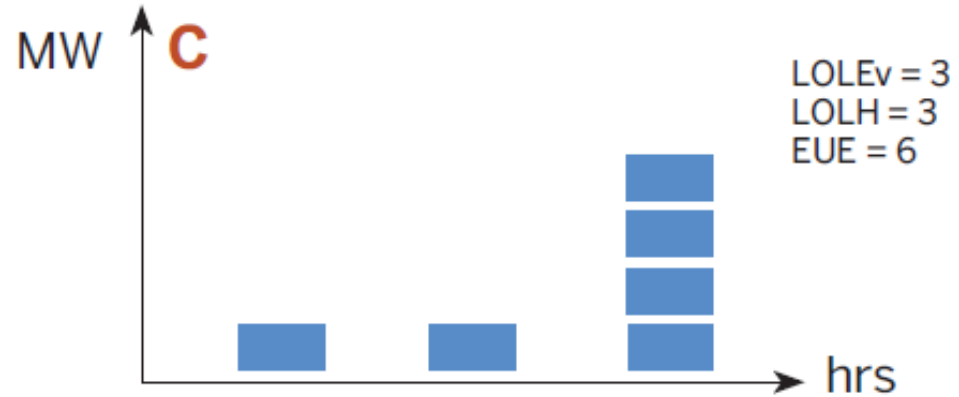
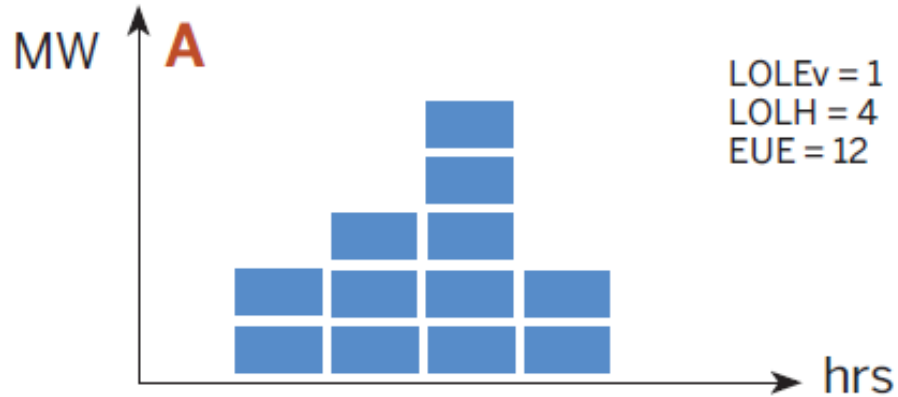
- New Resource Adequacy Criteria for the Energy Transition, 2024
- Redefining Resource Adequacy for Modern Power Systems, 2021

Loss-of-Load (LOL) Reliability Metric Definitions

A *LOL event* is a continuous period when firm load exceeds available generation

Metric	Definition
Loss of Load Expectation (LOLE)	Expected number of days with a LOL event
Loss of Load Hours (LOLH)	Expected number of hours with a LOL event
Loss of Load Events (LOLEv)	Expected number of LOL events; can have >1 event per day, or one event > 1 day
Expected Unserved Energy (EUE)	The amount of energy (in MWh) not served during LOL events (NEUE is EUE normalized by total annual energy)
Loss of Load Probability (LOLP)	The probability a LOL event will occur during a given period
Effective Load Carrying Capability (ELCC)	Amount of additional load (in MW) that can be “reliably” served by an incremental addition of a given resource

Examples: LOLE, LOLEv, LOLH, EUE



Each example above has a LOLE of 1 (each day has at least one event)

Example: Effective Load Carrying Capability (ELCC)

