

Idaho Power's Resource Adequacy

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Introduction

- This presentation provides an overview of Idaho Power's resource adequacy.
- Preliminary results on capacity needs and planning margin will be discussed.



IRP Relevance



Agenda



- Acronyms and definitions
- Reliability target
- Effective Load Carrying Capability (ELCC) review
- Planning margin

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Acronyms and Definitions



LOLE: Loss of Load Expectation

LOLH: Loss of Load Hourly

ELCC: Effective Load Carrying Capability

EFOR: Effective Forced Outage Rate

Perfect Generator: $EFOR = 0$; always available

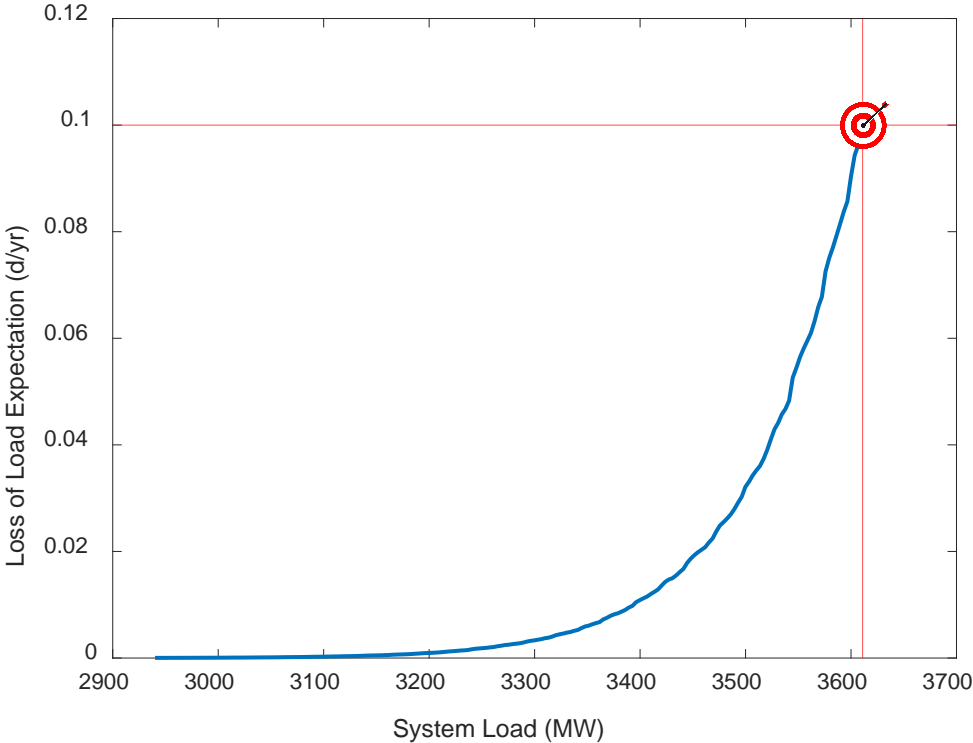
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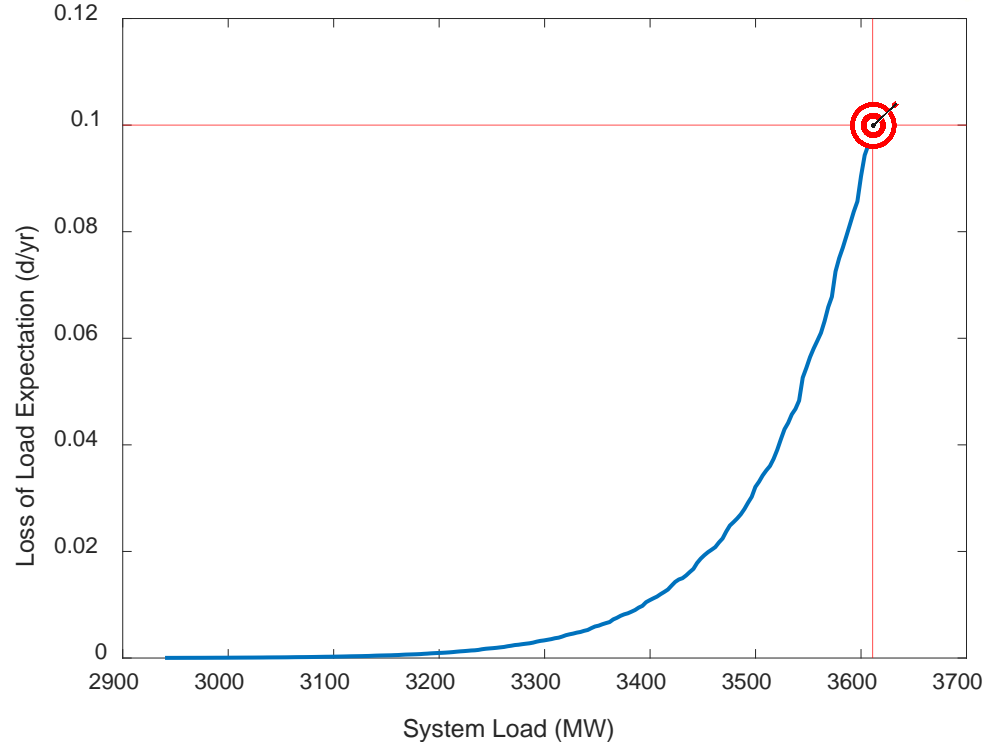
Reliability Target

The target is to serve the forecasted peak load with a loss of load reliability of 0.1 events per year.



Resource Need

- Load target
 - Forecast 50/50 load
- Set transmission imports equal to zero
- Increase new perfect capacity resource until LOLE at the load target equals 0.1 events/year
- Obtain resource need for a given year



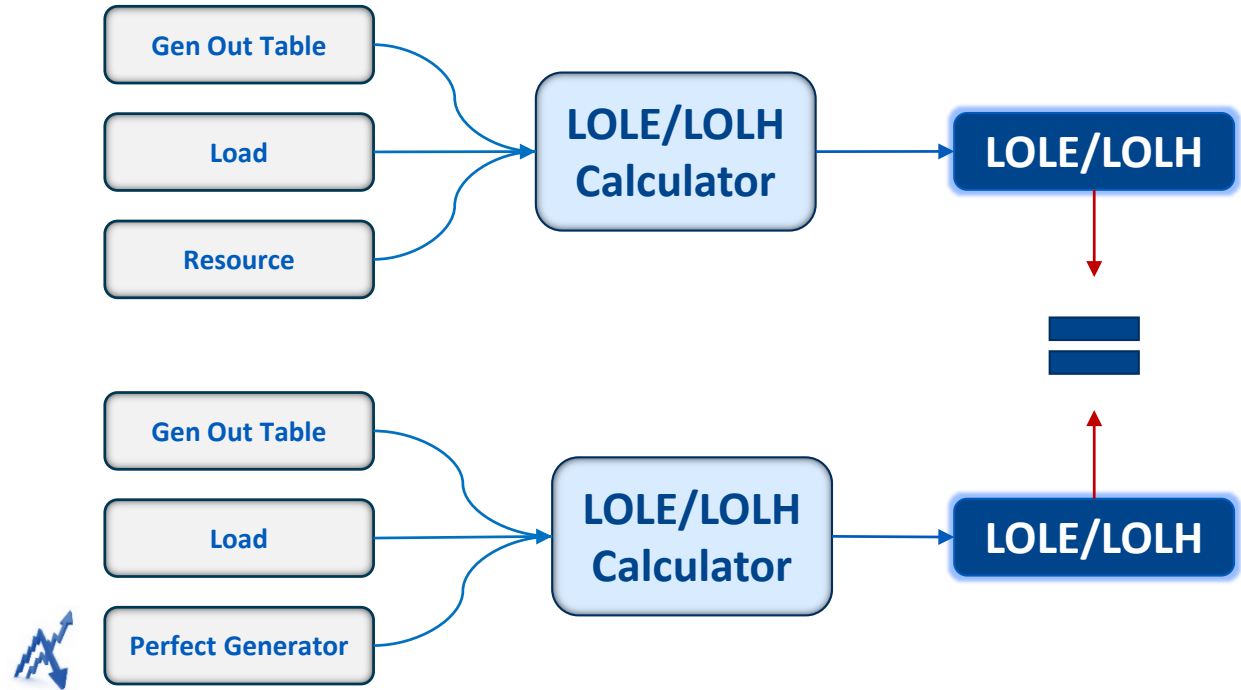
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- Acronyms and Definitions
- Reliability Target
- **ELCC review**
- Planning Margin

ELCC Review

The ELCC of renewable resources and demand response was calculated by determining the “perfect generator” whose resulting reliability impact on the system was the same as that measured by the LOLE.



ELCC Results



Resource		ELCC	
Solar	316 MW	28.30%	89 MW
Wind	726 MW	13.50%	98 MW
Demand Response	380 MW	19.1%	73 MW

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- ELCC Review
- Planning margin

LOLE to Planning Margin

AURORA requires a
planning margin input

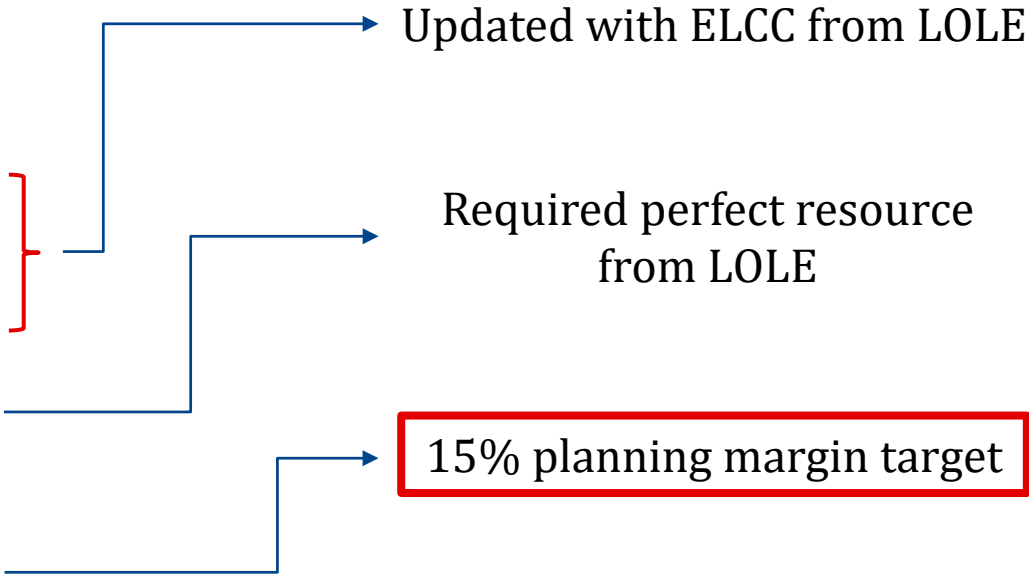
Planning margin is
derived from LOLE

Considers variable
resource's ELCC

Load & Resource Balance Benchmarking



	2022 (MW)
Forecast Peak Load	3,611
Canyon	1,100
Coal	842
Gas	694.9
Run of River	295
Solar	90.3
Wind	83
Demand Response	73
CSPP (Other)	161
Resource Need	475
Emergency Transmission	330
Planning Margin	1.151



Load & Resource Balance Benchmarking



	2022 (MW)	2023* (MW)
Forecast Peak Load	3,611	3,672
Canyon	1,100	1,100
Coal	842	531
Gas	694.9	694.9
Run of River	295	295
Solar	90.3	108
Wind	83	83
Demand Response	73	73
CSPP (Other)	161	161
Resource Need	475	780
Emergency Transmission	330	330
Planning Margin	115.1%	113.5%

* Assumes exit from Valmy and one Bridger unit

Summary

The reliability target is
0.1 events/year.

The planning margin
was derived from the
LOLE probability
method.



Thank You!

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