

Agenda Item 5.0

PSPC Meeting 273

March 11, 2010

# ICR High Level Overview and Future Issues

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# Objective

- Present the ISO calculated ICR values for the 2013/2014 Capability Year
- Identify the preliminary driver for the change in the relative level of resulting reserve
- Introduce two issues that have been identified but that require further analysis and stakeholder review
  - These additional issues are not part of the 2013/2014 ICR proposal

# Calculated ICR for 2013/2014 (MW)

Capability Year	ICR	Net ICR	Total Tie Benefits	HQICCs	50-50 Summer Peak Frctst	Year of CELT Load Forecast
2010 FCA 1	33,705	32,305	1,860	1,400	29,035	2007
2011 FCA 2	33,439	32,528	1,800	911	29,405	2008
2012 FCA 3	32,879	31,965	1,665	914	29,020	2009
2013 FCA 4	32,817	31,901	1,700	916	28,570	2010

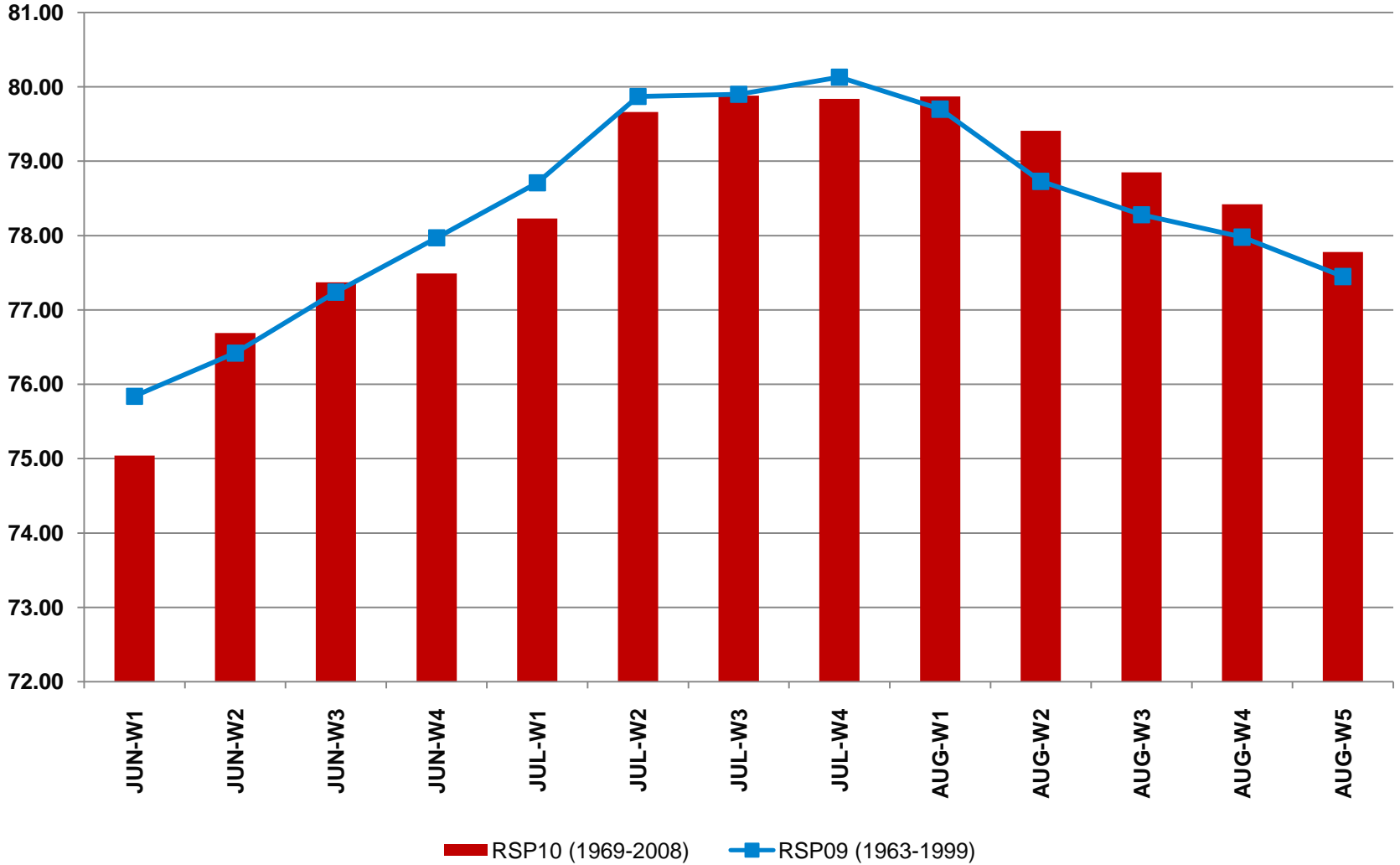
- ICR calculated consistent with rules and procedures used previously
- The only differences from prior years results from slight changes in data input – load forecast and weather history
  - Updated historical weather statistics from 1963 - 1999 to 1969 - 2008.

# Historical Weather Data Update in Load Forecast

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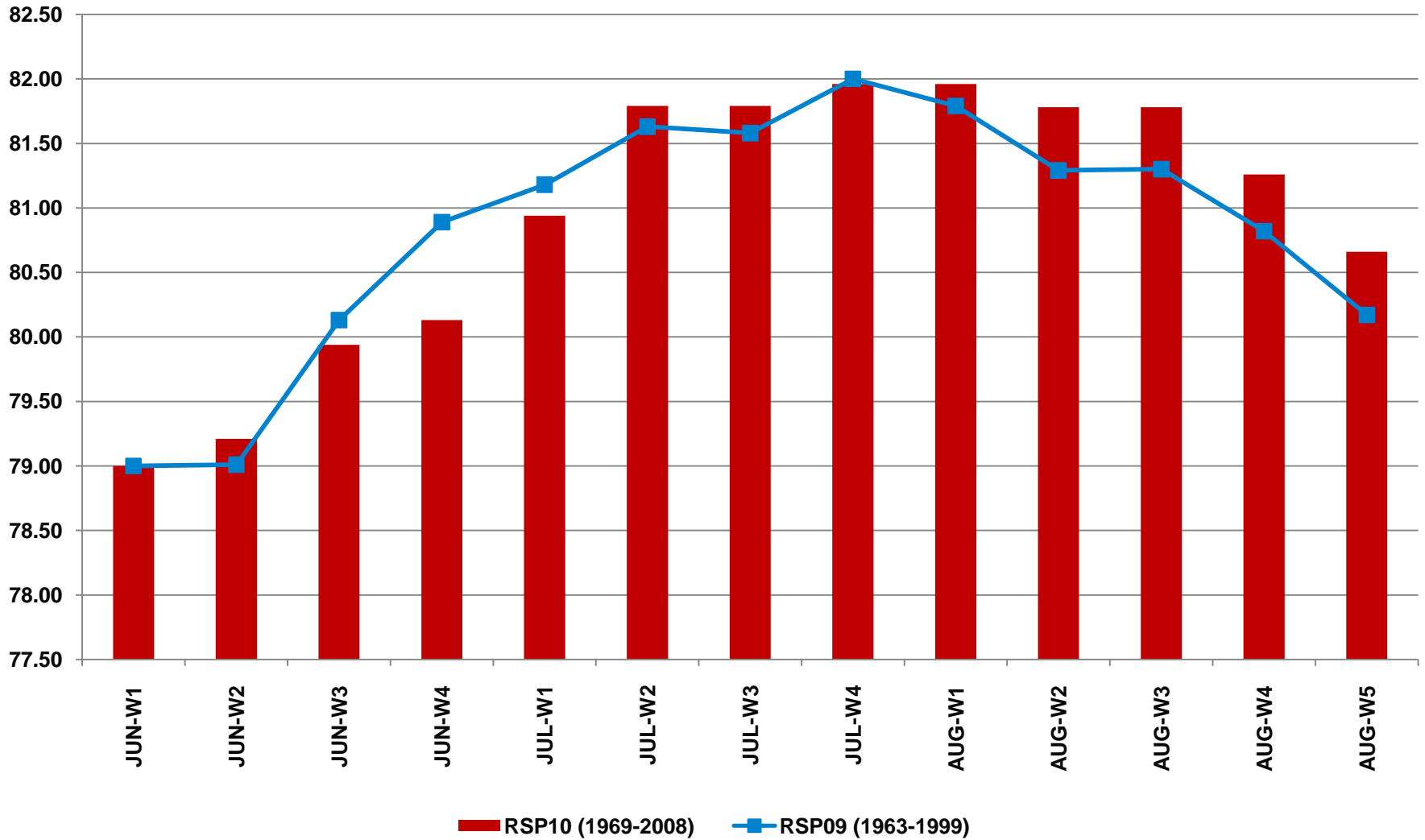
- Updated actual historical weather is used to forecast weekly peak load distributions, and seasonal peak loads
  - Updated historical years from 1963-1999 to 1969-2008
  - June and July not quite as hot, but August hotter
  - January and December not quite as cold
- System load is slightly less “peaky” but the number of near-peak loads is increased

# New England 50/50 WTHI



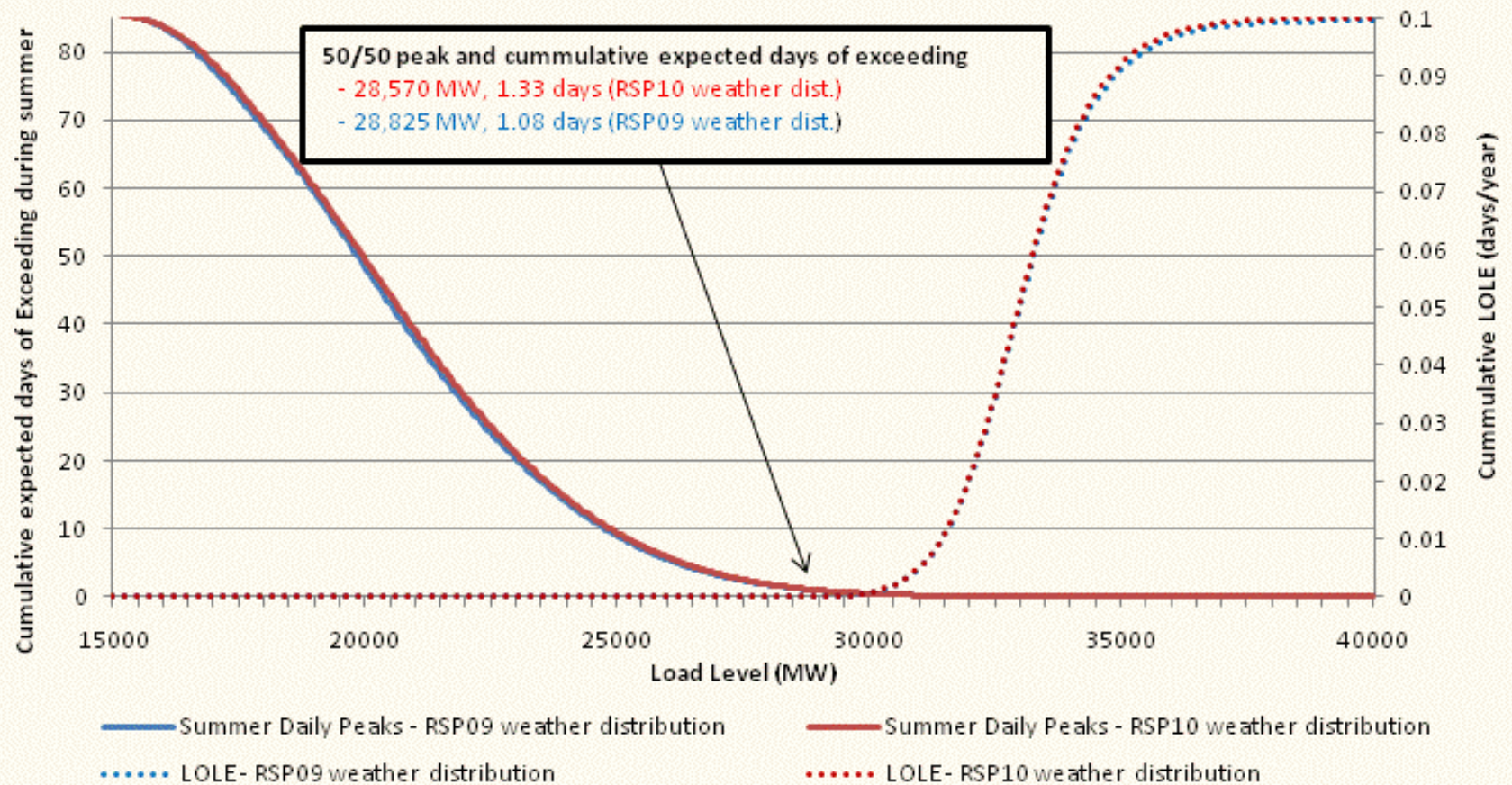
WTHI = weighted temperature and humidity Index

## New England 90/10 WTHI

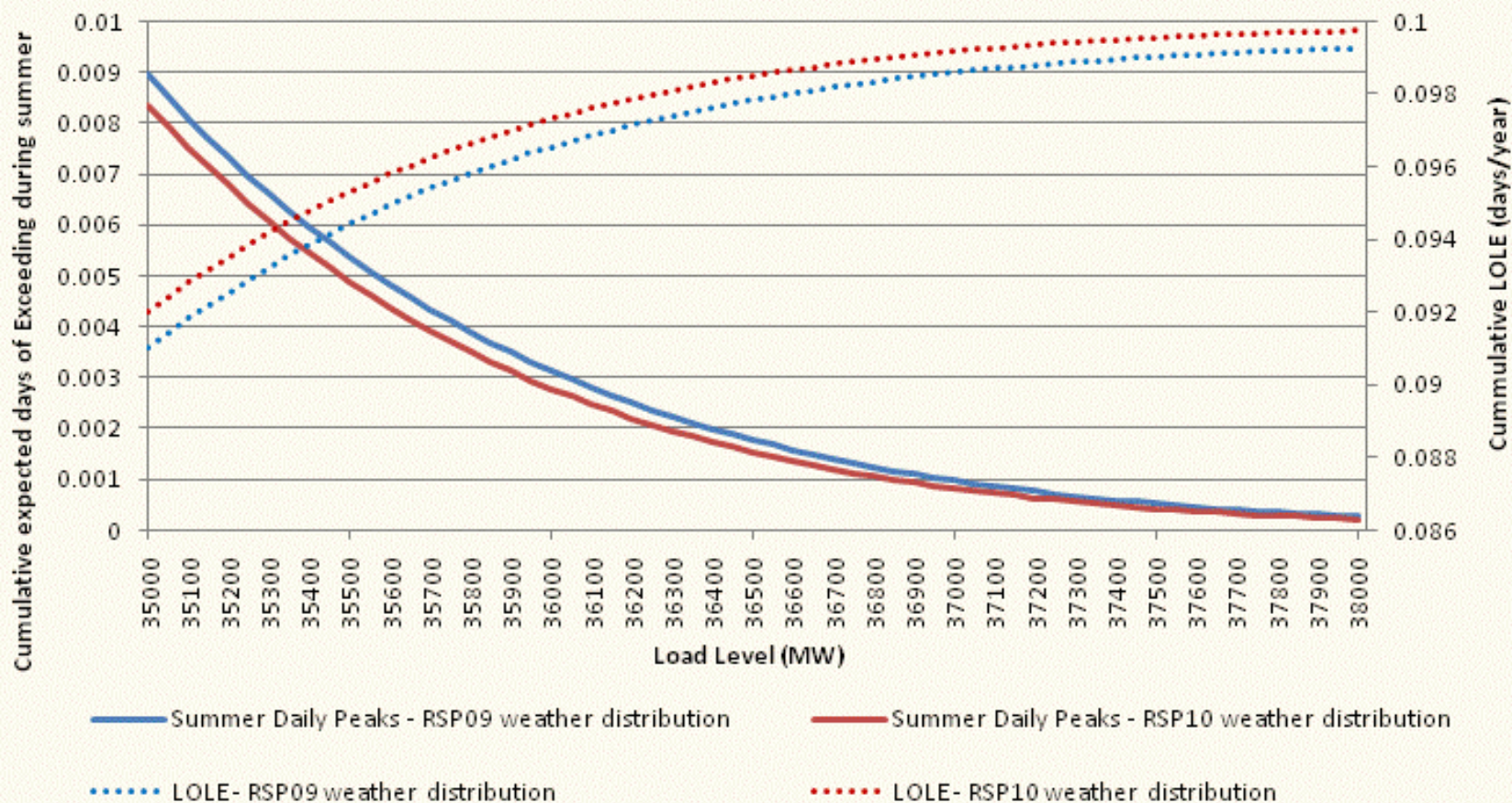


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## Impacts of Different Weather Distributions on Westinghouse Load Model and LOLE



## Impacts of Different Weather Distributions on Westinghouse Load Model and LOLE



# ICR Issues for Future Consideration

# Identified ICR Issues Requiring Future Consideration

- Load relief available from voltage reductions
- Additional Load Carrying Capability (ALCC) modeling of skewness in ICR Models
  - In previous Westinghouse model, LOLE calculations assumed skewed daily peak load distributions, while ALCC calculations assumed normal load distributions

# Relief Available from Voltage Reductions

- ISO New England Operating Procedure No. 13, Standard for Voltage Reduction and Load Shedding Capability requires a 1.5% reduction in load at the Participant level for a 5% voltage reduction
  - There is no requirement to realize any additional relief
  - Voltage Reduction tests rely upon self-reported data.
- Beginning in 2010 Appendix A of the ISO New England Operating Procedure No. 4, Action during a Capacity Deficiency will only “count” 1.5% to capture the required level of reduction.
- Current practice counts on (self-reported) test values in the ICR calculation

# Additional Load Carrying Capability

- ALCC is a method to account for surplus capacity when determining the exact amount of Installed Capacity Requirement needed to meet the 1 day in 10 Years Loss of Load Expectation
  - Determines the percentage of additional load the system can support
  - All the daily peak loads are increased by a same percentage so that the resulting annual system LOLE is at exactly 1 day in 10 years with the available amount of surplus
  - This approach eliminates the problem of deciding which resource to remove since a resource's performance characteristics impact system LOLE differently

# Additional Load Carrying Capability

- In benchmarking GE MARS and Westinghouse models it was discovered that:
  - The current model differs in the way it reflects the distribution of daily peaks assumed in calculating LOLE.
  - Greater amounts of assumed surplus under FCM may increase the value of the ALCC adjustment and make this a more significant issue
- This issue must be further analyzed to determine whether the ALCC adjustment should be modified to use the same skewed distribution used for calculating the system LOLE



QUESTIONS?