ELCC – IMM Proposal

Capacity Capability
Senior Task Force

August 7, 2020

IMM

Monitoring Analytics

IMM Proposal

- **The IMM supports using the Effective Load Carrying Capability (ELCC) method to determine the capacity values for intermittent resources.**
- **The ELCC analysis incorporates the random nature of intermittent resources and a well designed ELCC analysis should be consistent with the energy market.**
- **The IMM proposal is based on competitive market principles:**
  - **Marginal determination of the ELCC capacity value**
  - **Dynamic, market based ELCC capacity values will change as the resource mix changes**

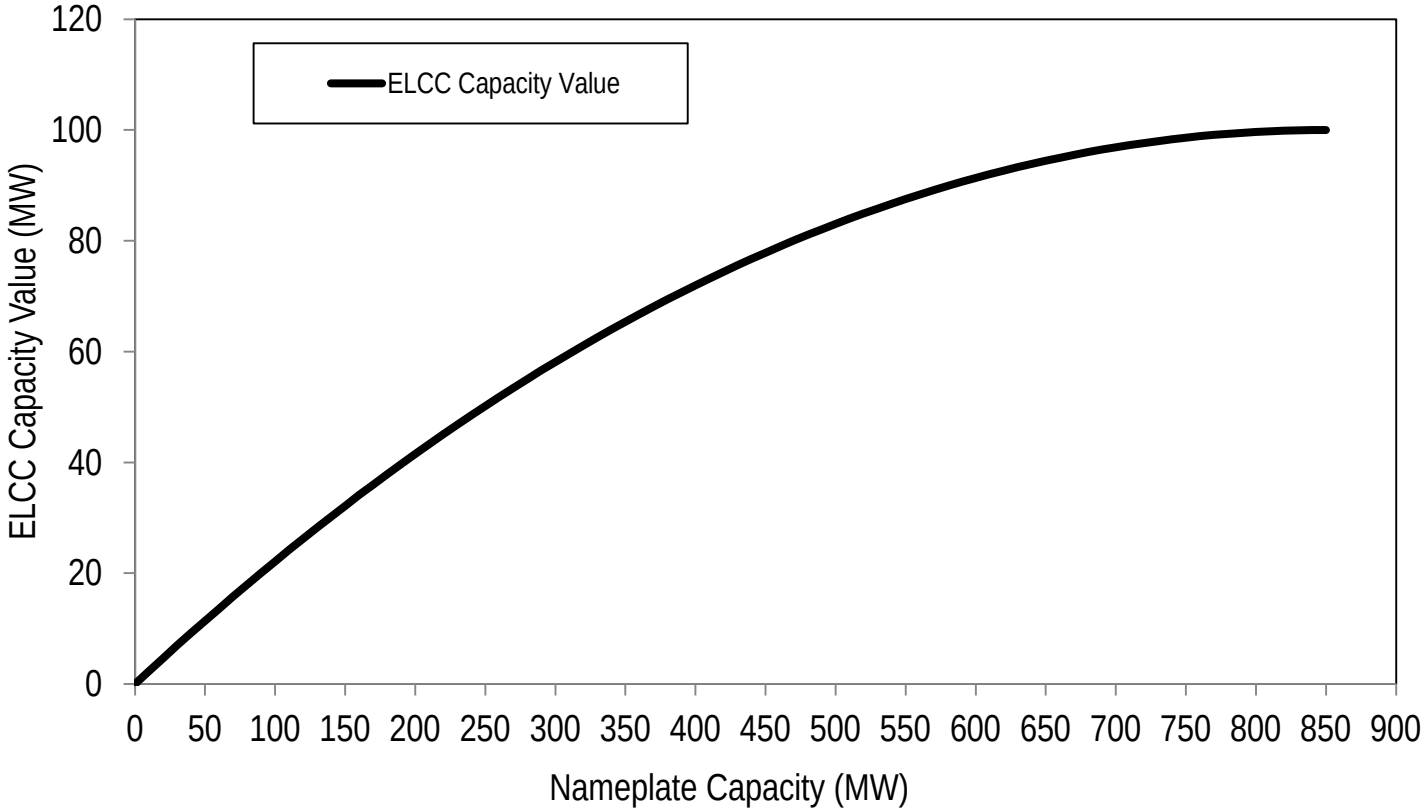
Marginal ELCC

- **The marginal ELCC curve will be an input into the capacity auction**
- **The ELCC curve will be used in the market clearing optimization to dynamically determine the cost and the contribution to meeting the reliability requirement of offers from intermittent resources.**
- **In the final optimal market solution, the marginal cost is equal to the marginal benefit for intermittent resources.**
- **The marginal ELCC will define the market clearing ELCC for all cleared intermittent resources.**

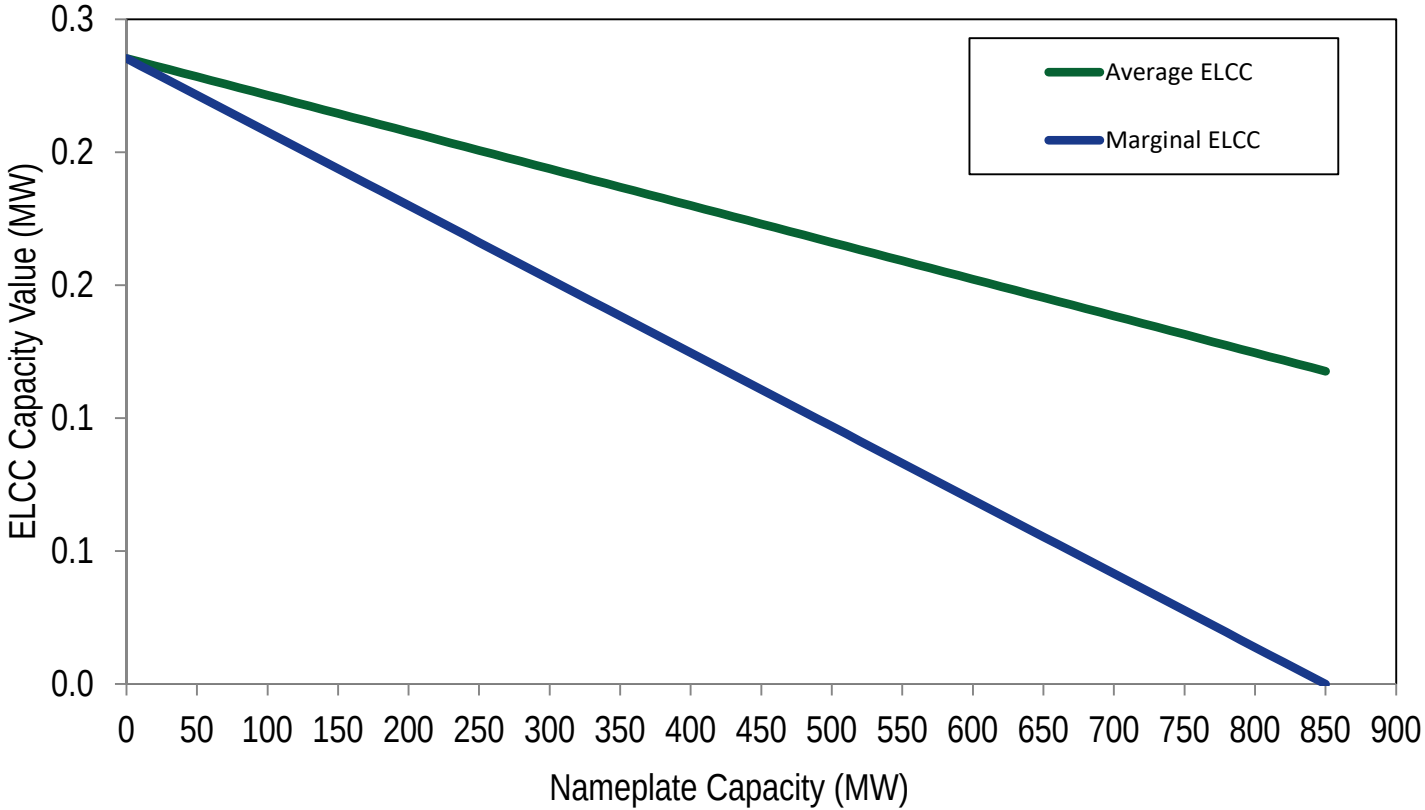
Average ELCC

- **Use of an average ELCC is not consistent with an efficient market clearing.**
- **Use of an average ELCC will result in:**
  - **an inefficient market outcome**
  - **with over procurement**
  - **over payment of intermittent resources**
  - **an inefficient displacement of traditional resources**

Total ELCC Curve



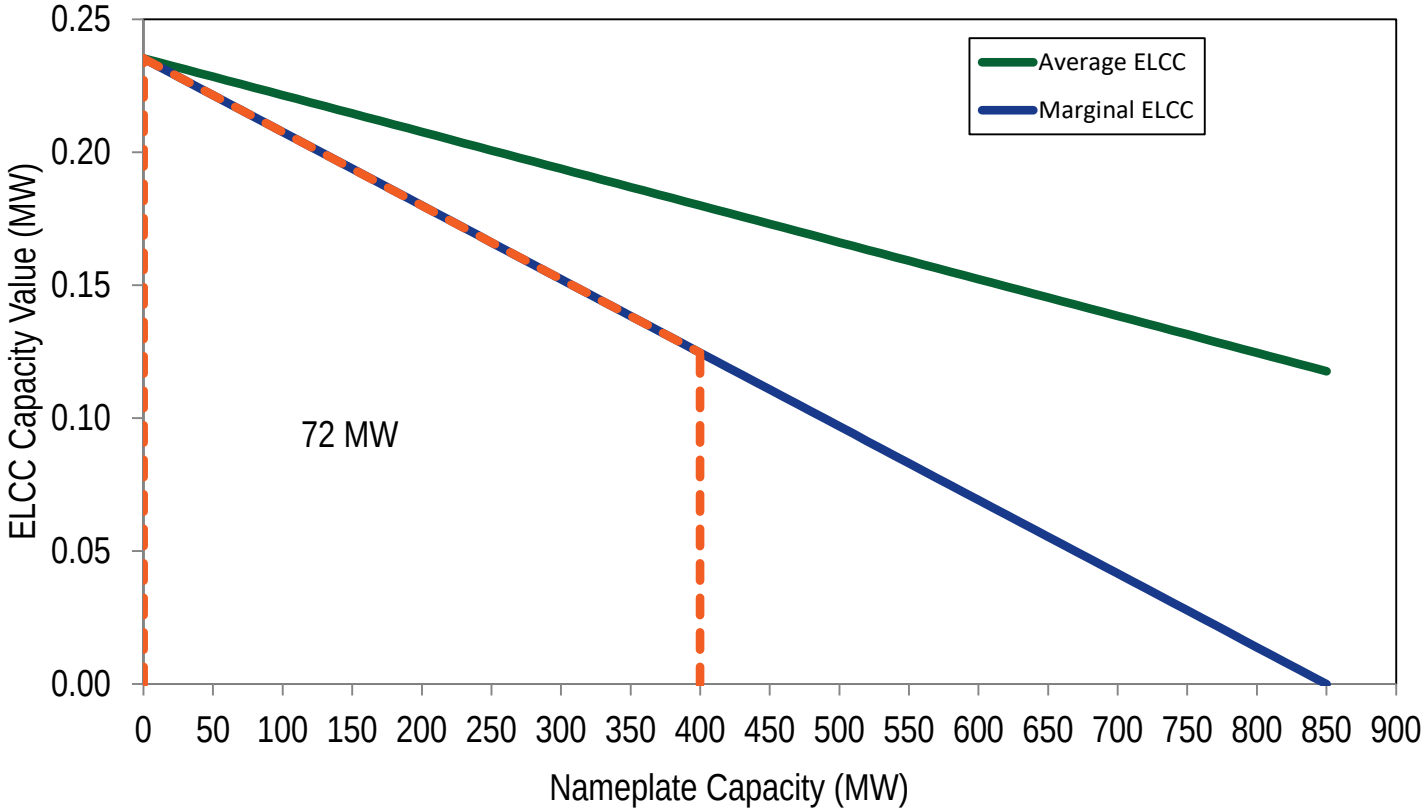
Marginal and Average ELCC Curves



Marginal ELCC Example

- Auction clears with 400 MW of nameplate capacity
  - Marginal ELCC is 12.46 percent
  - Average ELCC is 18.00 percent
- The market would clear UCAP MW equal to the area under the marginal ELCC curve, 72 MW in this example
- Note that the Average ELCC x 400 MW = 72 MW
  - There are no missing MW

Marginal ELCC Example



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Vintage Treatment / Transition Period

- **Fixed or predefined ELCC capacity values through a vintage policy or a transition phase will result in inefficient outcomes and an increased cost to load**
- **Fixed or predefined ELCC capacity values will favor older technology over newer technology**
- **Fixed or predefined ELCC capacity values will lead to over procurement of specific resource types, displacement of more efficient resources and incorrect proportions of resources**
- **Fixed or predefined ELCC capacity values will make the system less reliable than the ELCC analysis predicts**

Vintage Treatment / Transition Period

- **Vintage treatment or a transition period will shift risk from resource owners to customers.**
- **The point of markets is to assign risk to market participants best able to manage it.**
- **Resource owners can manage the risks they face.**
- **Vintage treatment would require customers to pay for costs associated with outdated technology and with overstated capacity value.**
- **PJM would need to make ad hoc adjustments at customers' expense to maintain target reliability.**

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