ALTERNATIVES FOR DETERMINING LCRS
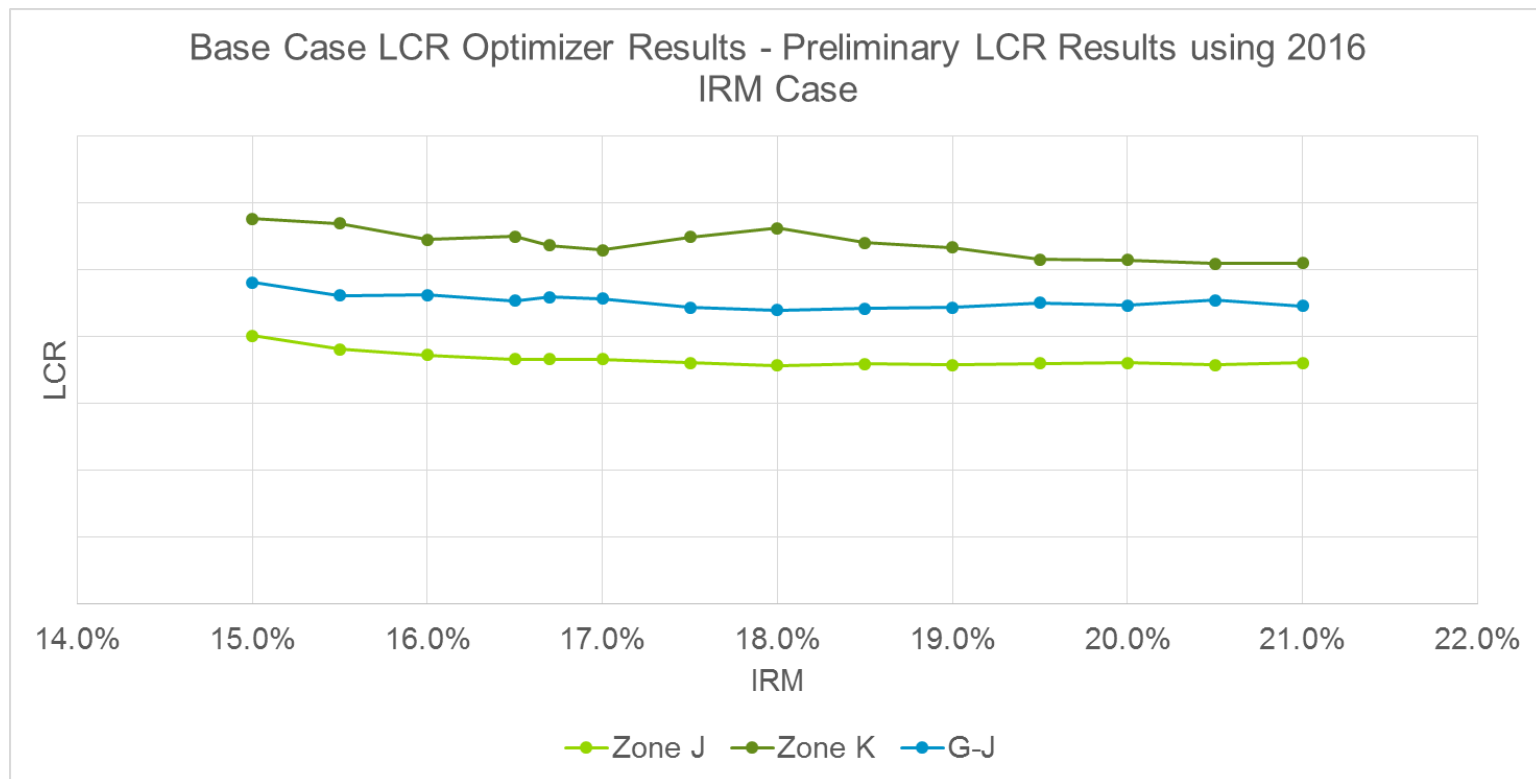
PROJECT UPDATE AND INITIAL RESULTS

OCTOBER 5, 2016

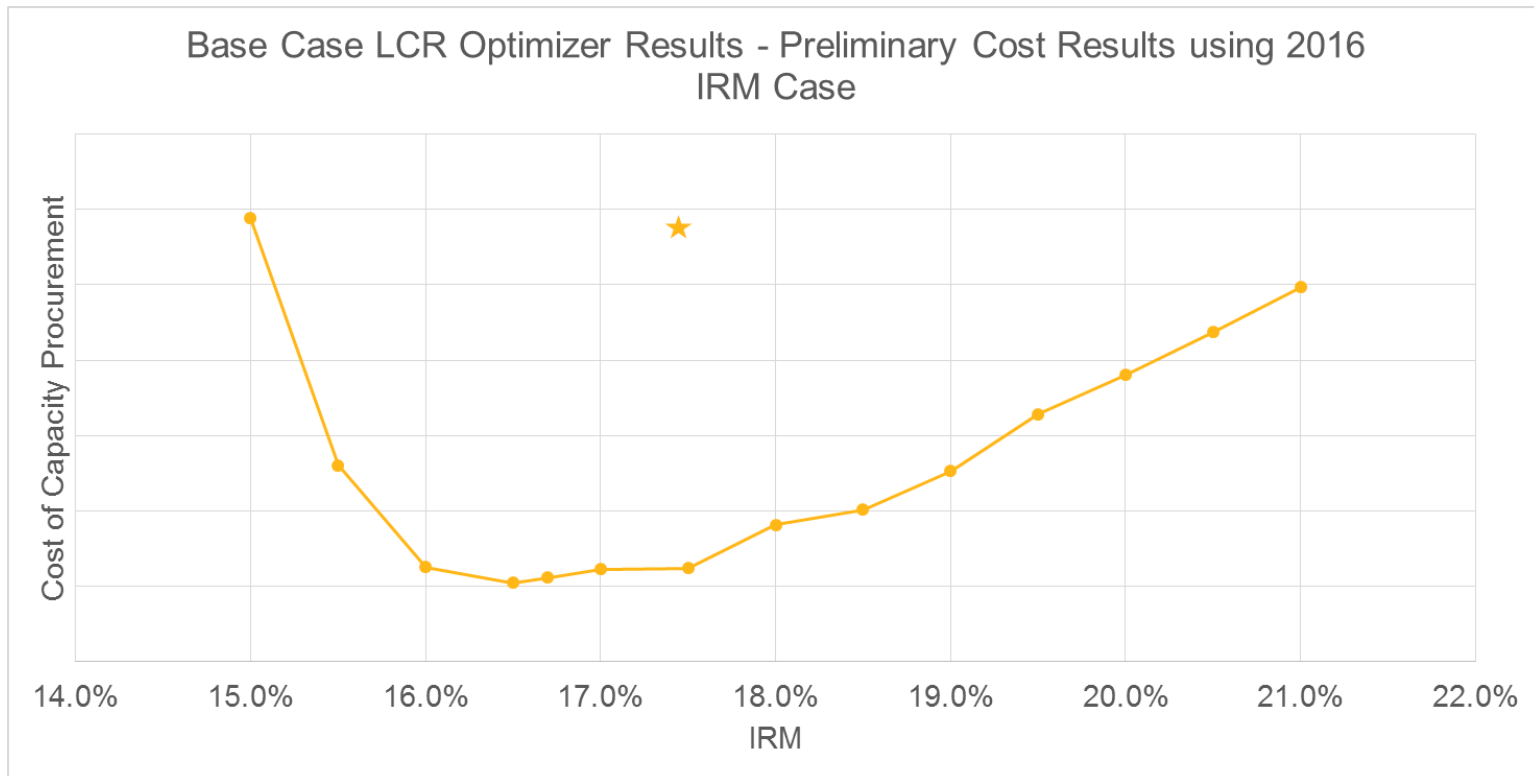NAVIGANT

INITIAL RESULTS – COMPARISON WITH 2016 IRM STUDY

- ➢ Initial results using the MARS "LCR Optimizer" show stable LCRs as the IRM varies
- ➢ Optimizing for IRM and LCRs simultaneously result in IRM of 16.7%

Base Case LCR Optimizer Results - Preliminary LCR Results using 2016 IRM Case

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INITIAL RESULTS – COMPARISON WITH 2016 IRM STUDY

➢ Cost of capacity procurement is lower than Tan45 method

   ➢ Dots show fixed IRM runs, co-optimized IRM is at 16.7%

   ➢ Star shows cost of capacity procurement under 2016 Tan45 method

Base Case LCR Optimizer Results - Preliminary Cost Results using 2016 IRM Case
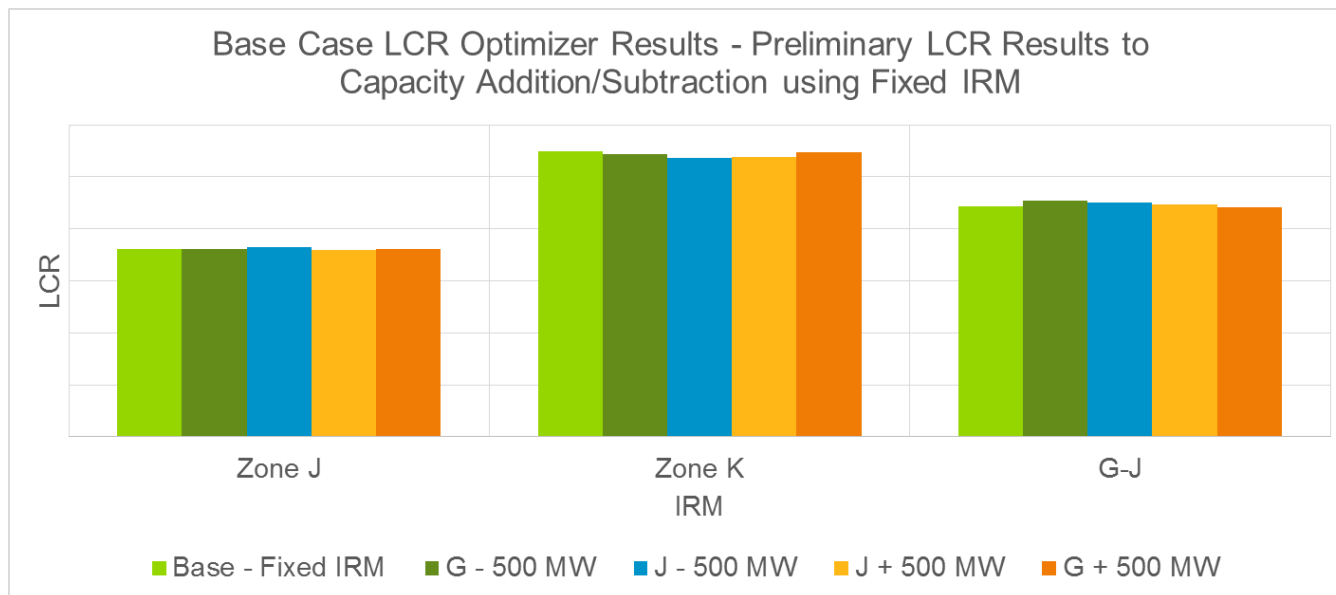
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INITIAL RESULTS – ADDITIONAL OBSERVATIONS

➢ The sensitivity of the results to the number of MARS replications was tested, with negligible impact observed

➢ Zone K and the G-J Locality have a notable range in which they can fall on the total LCR chart without much movement in the total cost to procure capacity

➢ Additional runs using objective functions beyond limiting the cost to procure capacity may need to be explored

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ADDING/SUBTRACTING CAPACITY WITH FIXED IRM

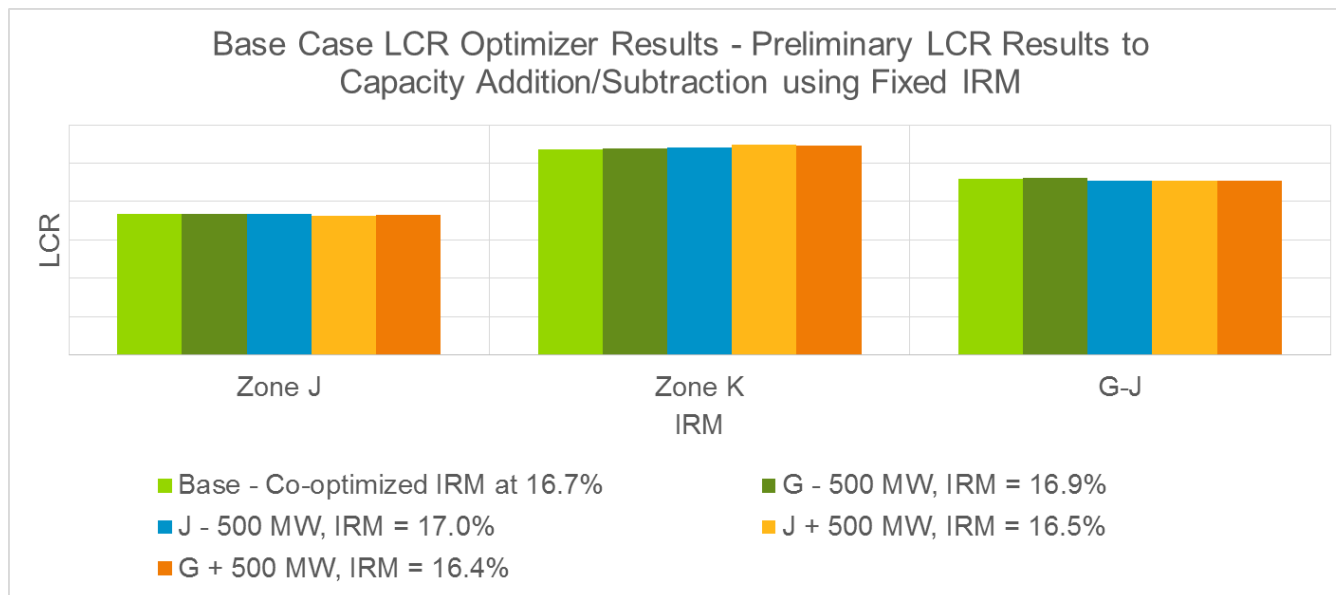- ➢ With a fixed IRM at 17.5%
  - ➢ +500 MW to Zone J: Zone K LCR decreases, Locality G-J LCR increases, Zone J LCR remains essentially the same
  - ➢ +500 MW to Zone G: Zone K and G-J Locality LCRs decrease, no movement in Zone J
  - ➢ -500 MW from Zone J: Zones J and G-J Locality LCRs increase, Zone K LCRs decrease
  - ➢ -500 MW from Zone G: G-J Locality LCR increases, Zone K LCR decreases, no movement in Zone J

Base Case LCR Optimizer Results - Preliminary LCR Results to Capacity Addition/Subtraction using Fixed IRM

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ADDING/SUBTRACTING CAPACITY WITH CO-OPTIMIZED IRM

➤ Co-optimizing the IRM adds stability to the results

  ➤ +500 MW to Zone J: IRM and LCRs in Zone J and the G-J Locality decrease, LCR in Zone K increases very slightly

  ➤ +500 MW to Zone G: IRM and LCRs in Locality G-J and Zone J decrease slightly, LCR in Zone K increases

  ➤ -500 MW from Zone J: IRM and Zones J and K LCRs increase, G-J Locality LCR decreases

  ➤ -500 MW from Zone G: IRM and LCRs in Zone K and G-J Locality increase, no movement in Zone J

Base Case LCR Optimizer Results - Preliminary LCR Results to Capacity Addition/Subtraction using Fixed IRM

Legend:
- Base - Co-optimized IRM at 16.7%
- G - 500 MW, IRM = 16.9%
- J - 500 MW, IRM = 17.0%
- J + 500 MW, IRM = 16.5%
- G + 500 MW, IRM = 16.4%

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ADDITIONAL CASES

- ➢ Cases currently running:
  - ➢ Limited emergency assistance, based on the initial NYISO draft emergency assistance whitepaper proposal
    - ➢ NYISO draft is being discussed with ICS in relation to the development of a potential IRM sensitivity run
  - ➢ Sensitivity to elasticity of Demand Curve net cost of new entry
  - ➢ Lower amount of capacity deliverable into SENY based on interface constraints

- ➢ Any additional sensitivities that stakeholders would be interested in need to be submitted as soon as possible and no later than October 7

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PROJECT TASKS & TENTATIVE SCHEDULE

Task Description	Tentative Schedule
Task 1: Initial Analysis - Compare options that simultaneously solve for LCRs for all 3 zones to optimize least cost of capacity procurement - Explore options with fixed IRM and co-optimizing IRM and LCRs simultaneously - Explore limitations of MARS model - Stress test methodologies and model	August - September
Task 2: Methodology Proposal Development - Scenarios on 2016 IRM case	September - October
Task 3: Presentation of Draft Proposed Methodology - Results of analysis and comparison to current methodology - Present to ICAP, NYSRC-ICS	October - November
Task 4: Stakeholder Feedback and Iterations	October - November
Task 5: Final Findings	December

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