Generator Interconnection Queue Improvements

Andy Witmeier
Director Resource Utilization, MISO
Interconnection Process Working Group (IPWG)
June 20, 2023

Purpose & Key Takeaways

Purpose:

Introduce the need to improve the rules governing entry and exit from the Generator Interconnection Queue

Key Takeaways:

- Issue: Additional tariff changes are needed to better manage the number of new requests in future queue cycles
- A smaller queue will result in faster studies, with less changes driven by withdrawals between phases
- The MISO 2023 Queue Cycle submission deadline will be extended until tariff changes are made
- A proposed solution will be presented at the July PAC

Queue reforms are needed to reduce the volume of future queue cycles to enable faster and more certain study results earlier

- Current tariff incentivizes speculative projects to enter the queue, with a small financial commitment, and allow withdrawn requests to get most of their money back, with interest, due to penalty free withdrawal provisions.
- The queue has seen an exponential increase in the number of requests.
  - The 2022 cycle was 171GW and MISO summer peak is approximately 123GW.
- The queue has significantly more generation submitted than will be built.
  - Over 80% of queue submittals don't get built
- The more projects in queue studies, the longer it takes to complete; the more projects that withdrawal, the less certain phase 1 and 2 study results are.
- Without reform to the rules governing entry and exit of the queue, the next cycle will continue this trend and will contribute to further delays in queue processing.
- **Therefore, MISO plans to extend the 2023 Queue Cycle submission deadline until tariff improvements are made.**

Potential Benefits to Additional Queue Reforms

- Fewer requests in a queue cycle will lead to faster results.
- Fewer requests will result in study assumptions that will more resemble an actual future dispatch.
- A reduction in withdrawals will lead to less changes in the network upgrades between studies thereby increasing upfront certainty for customers.
- Adjustments to refunds and removal of penalty free withdrawal will result in a transfer of funds from projects that dropout to projects that sign a generator interconnection agreement, reducing the overall costs of projects that will be built.
- Extending the 2023 Queue Cycle submission deadline until tariff changes are made will allow MISO/TO engineers to focus on existing projects in the queue.
- If tariff changes are made expeditiously, the 2023 Queue Cycle could begin later this year.

Potential Roadblocks to Queue Reforms

- Increasing requirements to enter and exit the queue can be perceived as an impediment to generation development.
- If milestone payments are too high, it could impact the ability of smaller developers from getting funding and pursuing viable projects.
- If milestone payments are too low, like today, it allows for a flood of requests that will not get built due to the lack of demand.
- Removing penalty free withdrawal could result in developers losing investment dollars on projects they thought were viable.
- Extending the 2023 Queue Cycle submission deadline could allow projects that are not ready for submission during the normal September deadline to be ready when reforms are approved, potentially shifting some projects forward.

Next Steps

- MISO will present an initial package of reforms (e.g., milestone payments, penalty free withdrawal changes, harm calculations, etc.) at the July 19th PAC.
- MISO will solicit feedback at the July PAC and provide an updated package at the August 30th PAC.
- MISO plans to file changes with FERC in Q3/Q4 of 2023.
- If FERC approval occurs in early November 2023, then the 2023 Queue Cycle Submission Deadline can occur in late November, avoiding the December holiday season.

Appendix

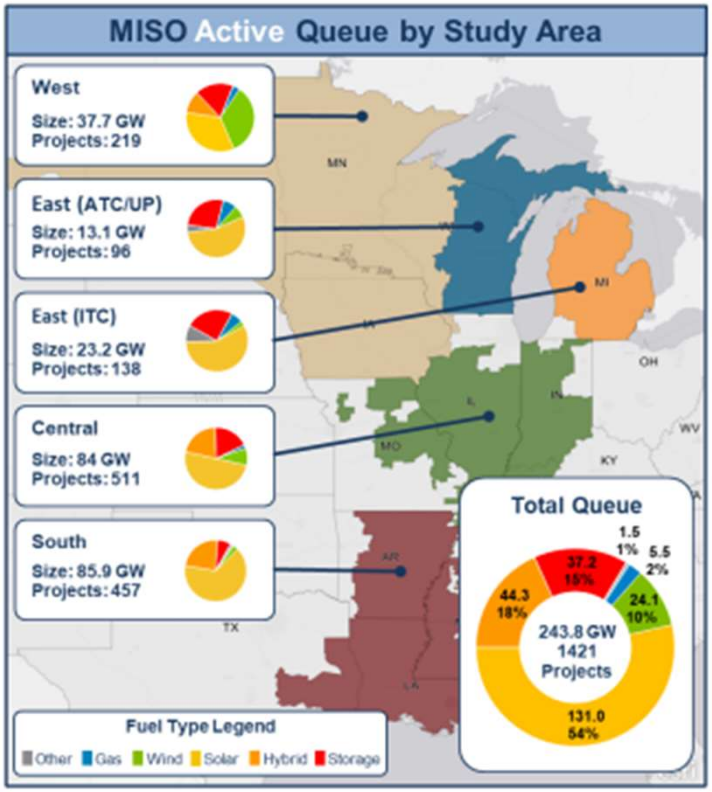
Initial List of Potential Issue Solutions

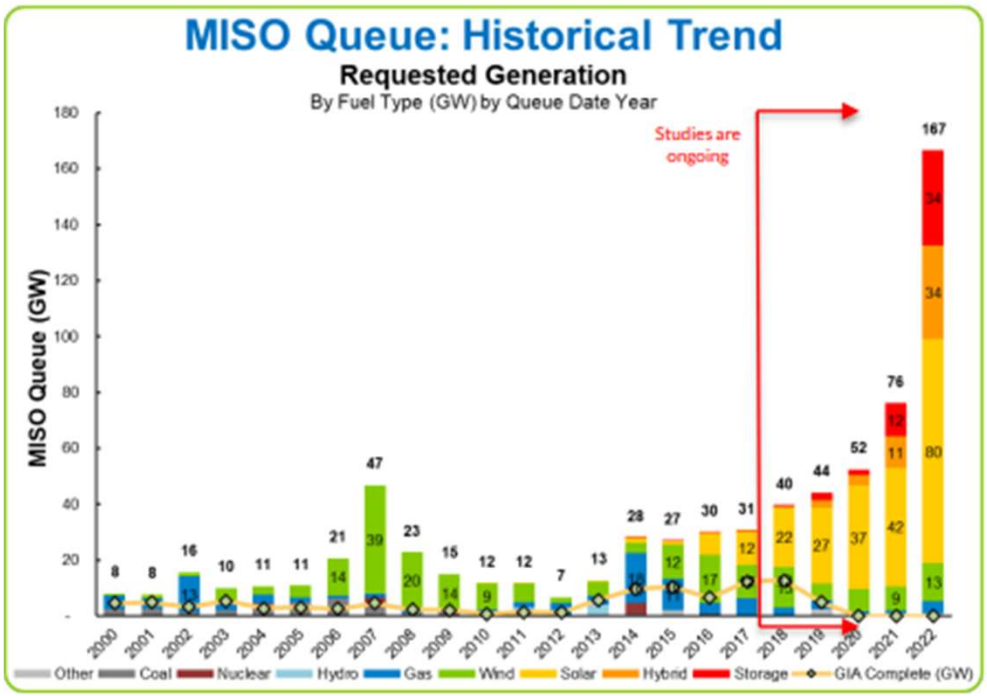
Hypothesis: Potential solution will consist of a combination of changes to existing rules, likely including some combination of:

- Increased milestone payments
  - Currently M2 is $4,000/MW, M3 is 10% of Network Upgrades, and M4 is 20% of Network Upgrades
- Changes to the type of funds used for milestone payments (cash versus line of credit)
- Removal or increase in limits for penalty free withdrawal (PFW) (Section 7.6.2.4 of GIP):
  - As an example, currently get PFW between DP1 and DP2 if costs increase more than 25% and at least $10,000/MW or affected system upgrade costs of more than $10,000/MW.
  - Values slightly increase for costs between DP2 and DP3 and DP1 and DP3.
- Adjustments to refund calculations
  - Currently M2 100% refundable before kickoff, 50% at Decision Point (DP) 1, M3 100% refundable at DP2 (all assumes no penalty free withdrawal)
- Implementation of harm calculations as outlined in Section 7.8 of the GIP (Attachment X)
- Changes to site control requirements (land ownership versus option to buy/lease)

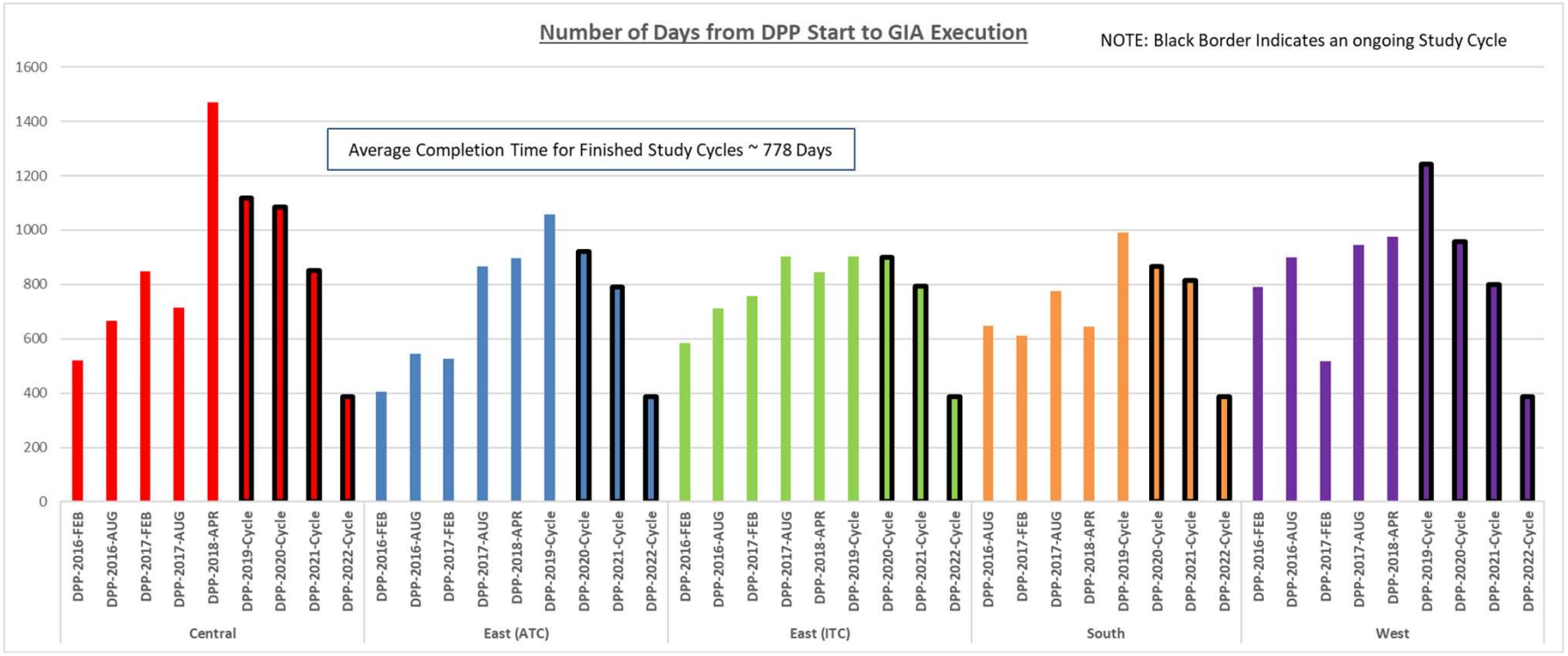
Historical Charts and Data

Historical Queue Volume and Current State



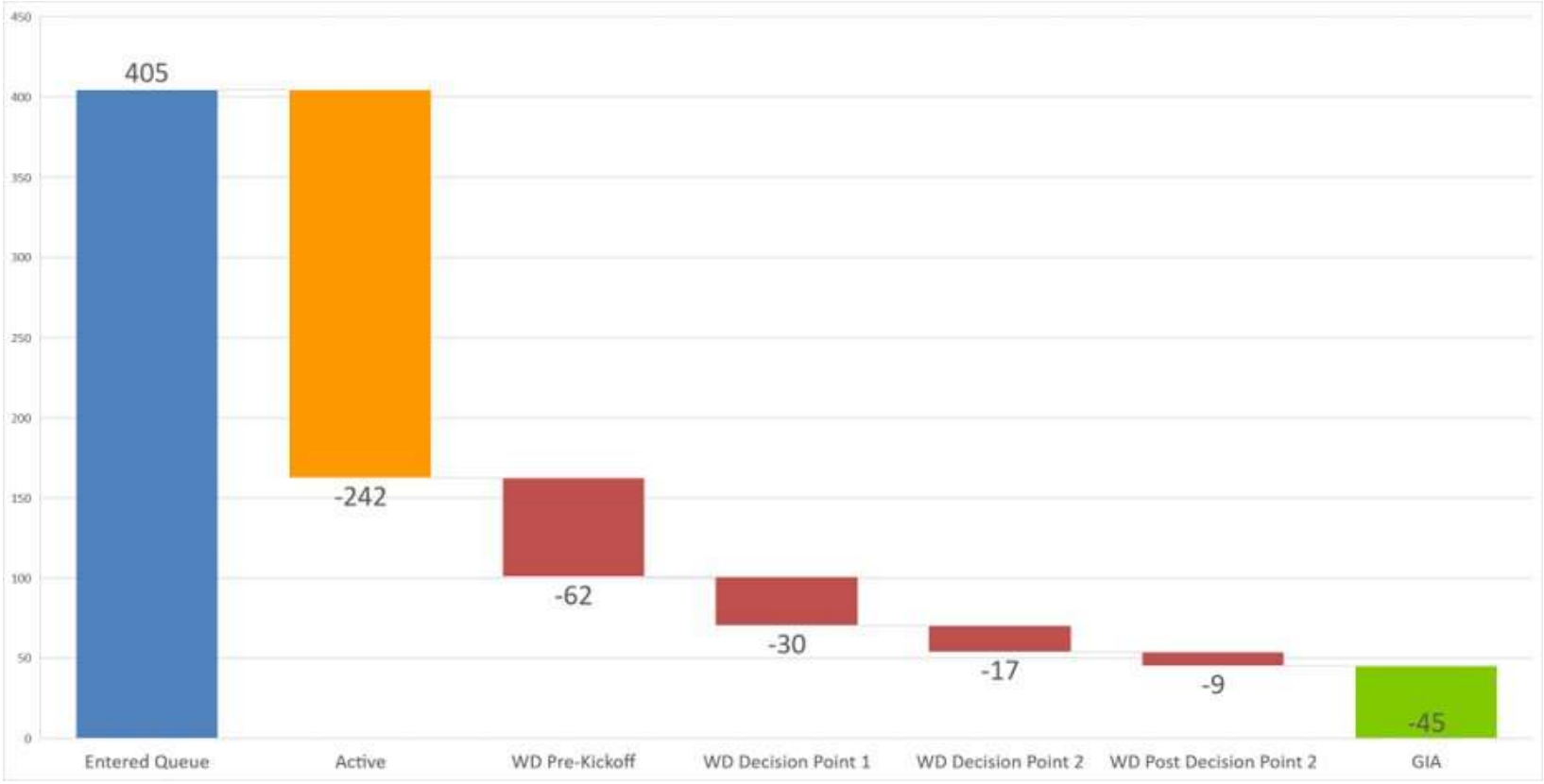


Historical Completion Time for Each DPP Cycle

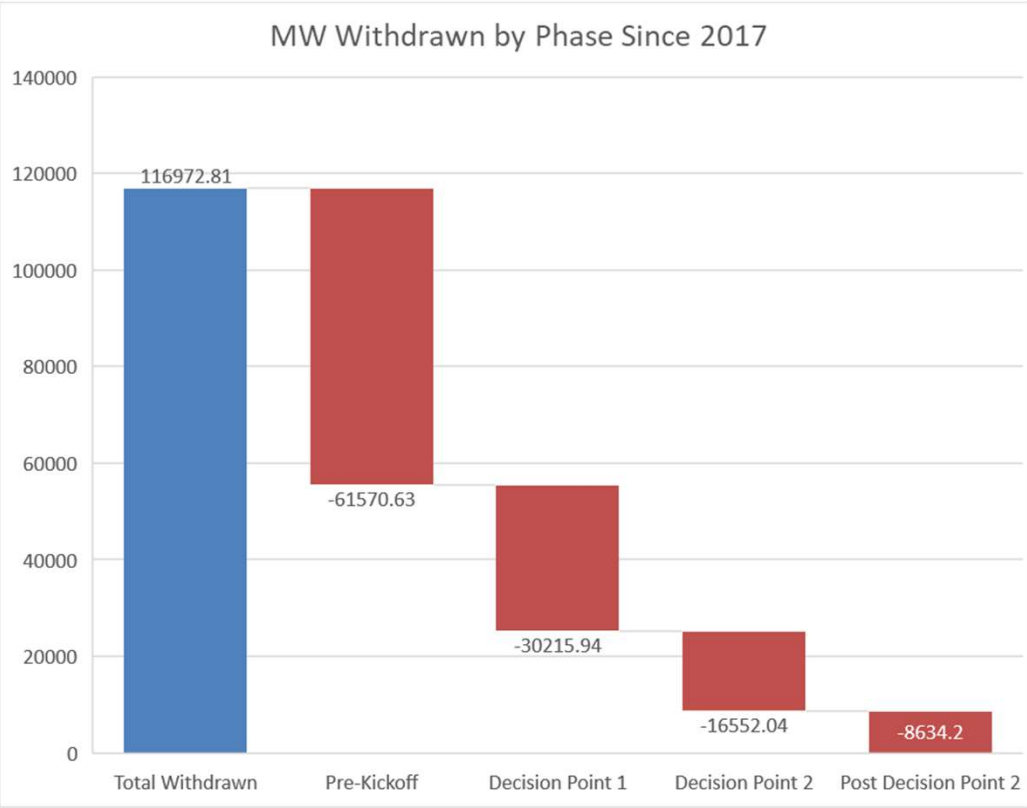


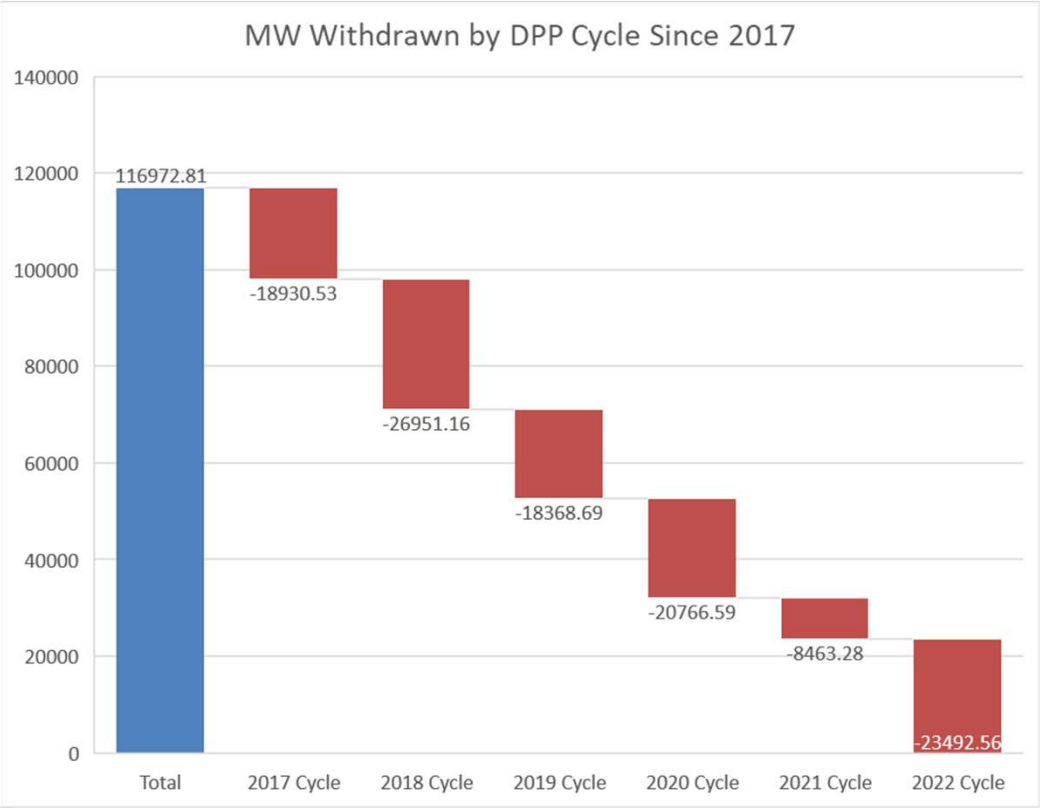
Cycle	GW Size
2016 Feb	8
2016 Aug	13
2017 Feb	8
2017 Aug	31
2018	40
2019	44
2020	52
2021	76
2022	171

Historical Queue Completion/Dropouts Since 2017

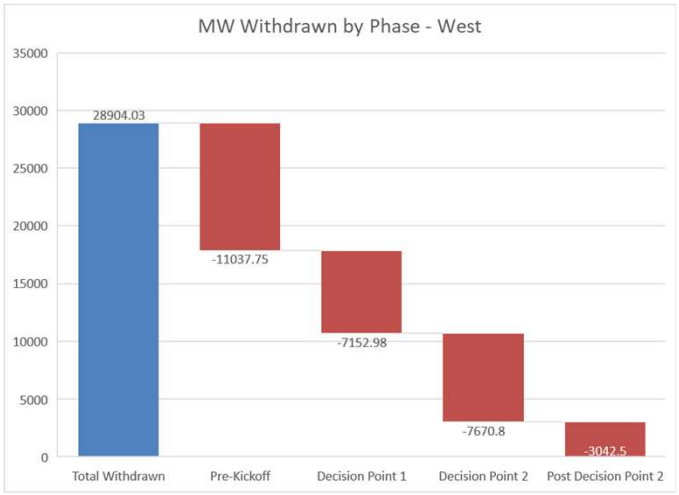


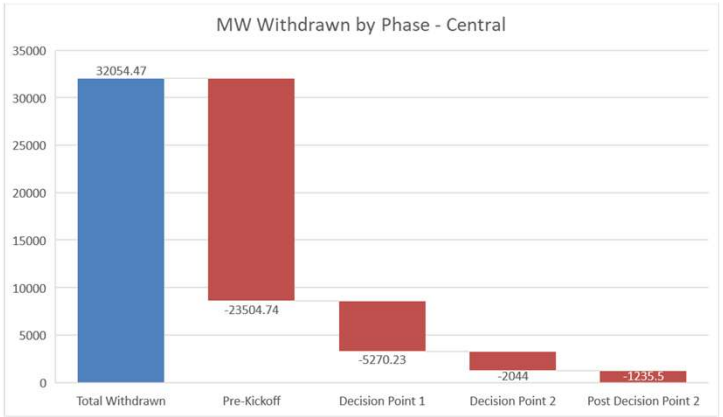
Historical Queue Withdrawals by MW

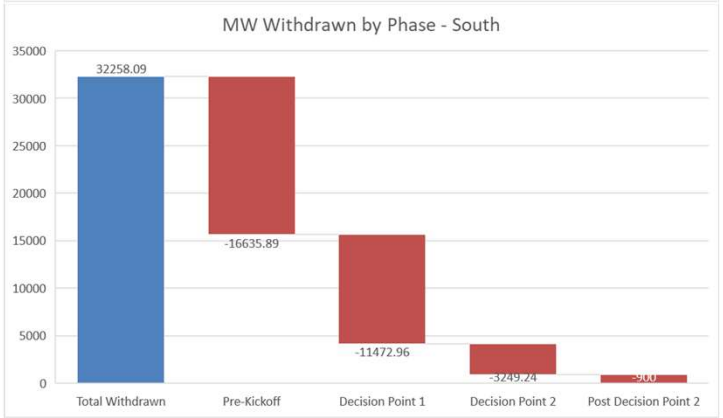


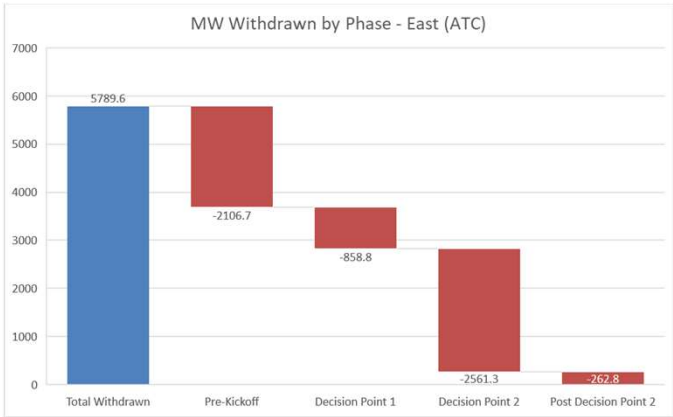


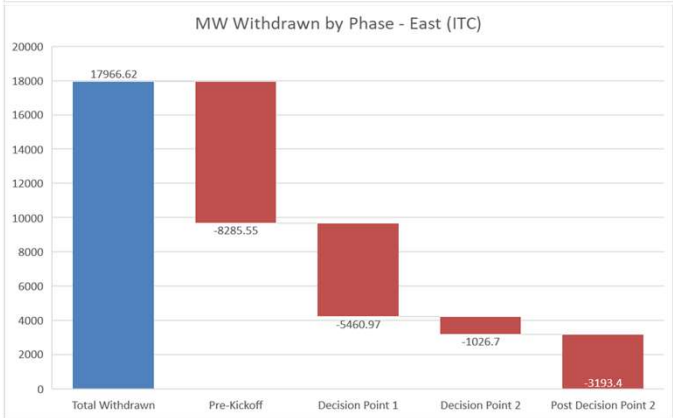
Historical Queue Withdrawals by Region



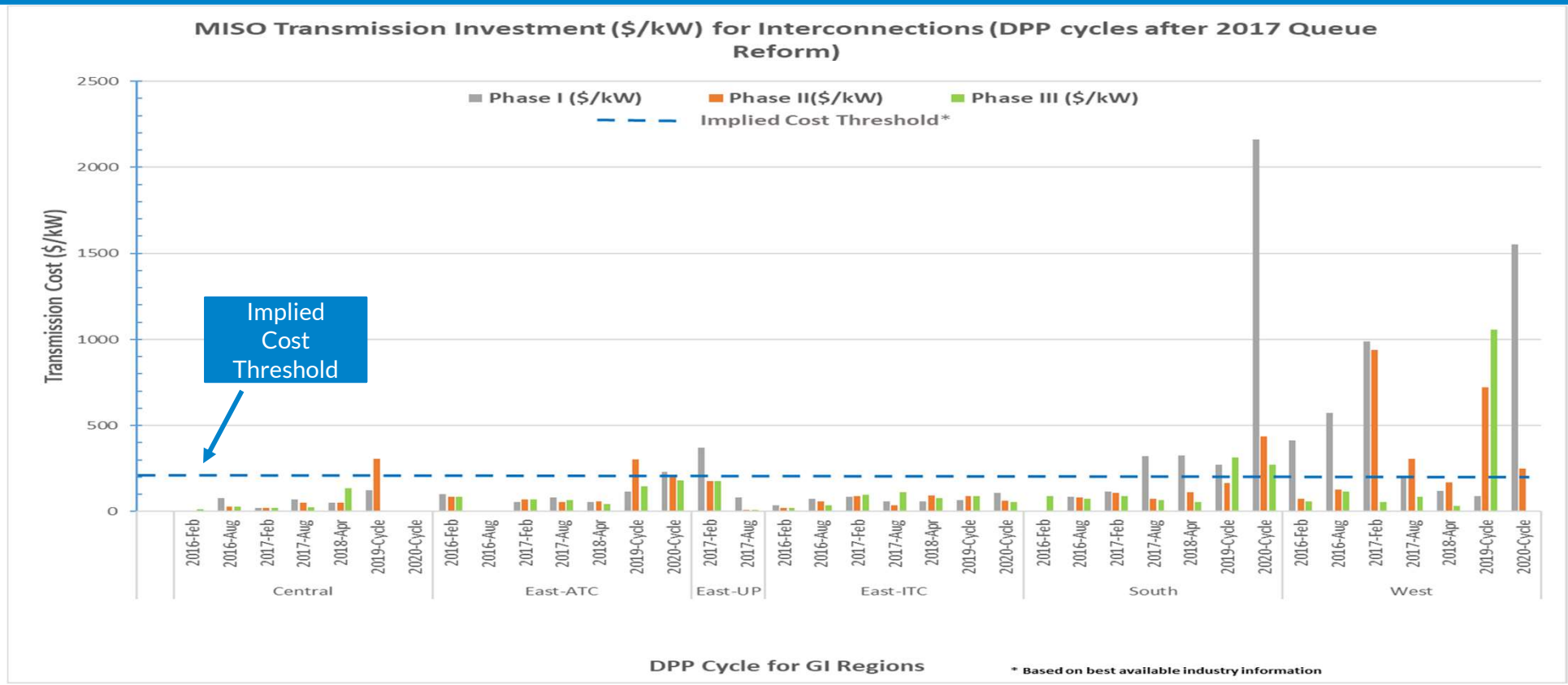




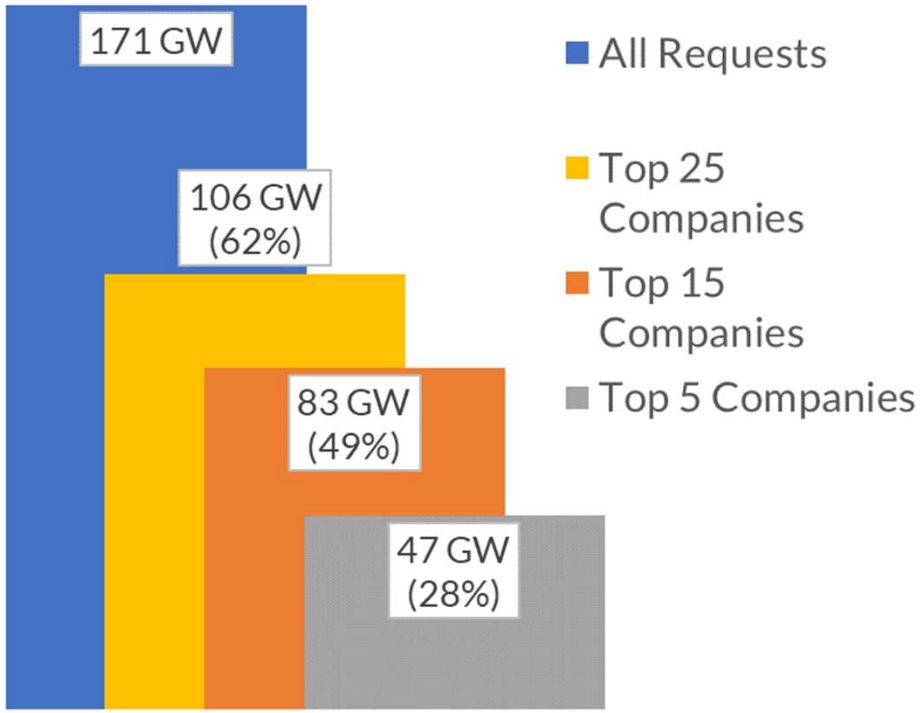


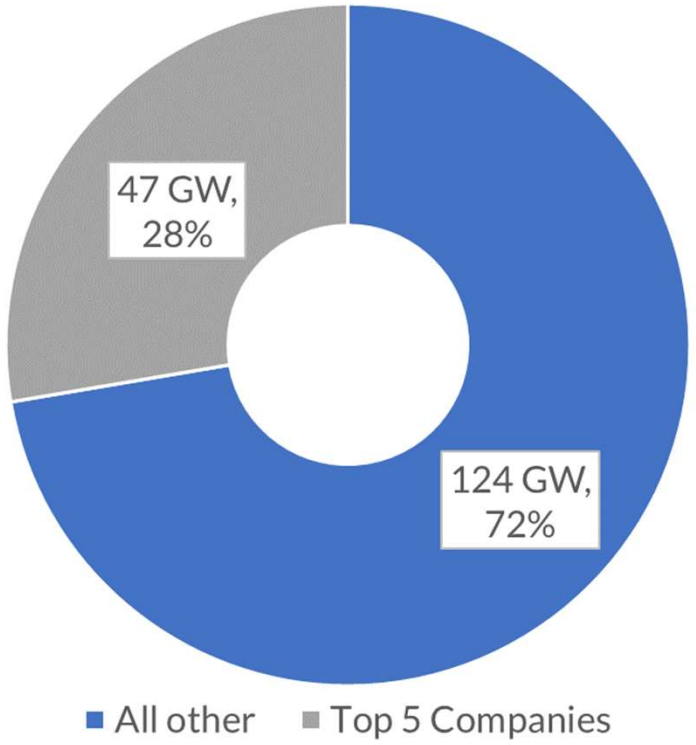


Historical Transmission Upgrade Costs for Previously Completed DPP Phases



Indicative Customer Submissions for 2022 Cycle





Questions?

Contact Information: Andy Witmeier awitmeier@misoenergy.org