



Fuel Requirements for Black Start Resources (FRBSR)

OC/MIC Special Session

Hiatus Activities Update

David Schweizer, Manager - Generation

Operating Committee
October 8, 2020

July 2018

- Problem Statement and Issue Charge approved by PJM stakeholders

Jan. 2019

- CBIR Process begins

Jan. 2020

- Stakeholders polled on FRBSR packages

Feb. 2020

- FRBSR package poll results reviewed / Planned vote in March 2020
- PJM evaluates OPSI concerns

Mar. 2020

- Reviewed next steps at OC/MIC Special Session / OC / MIC / MRC
- FRBSR process goes on hiatus to perform additional analysis

Clarity on restoration time impacts of non-fuel assured black start resources being unavailable during a restoration event

- Enhancements to previous increase in restoration time analysis including more TO zonal focus

Risk assessment of fuel supply failure for fuel sources utilized by black start

- Study on Natural Gas System to identify gas deliverability constraints to black start units during a restoration event

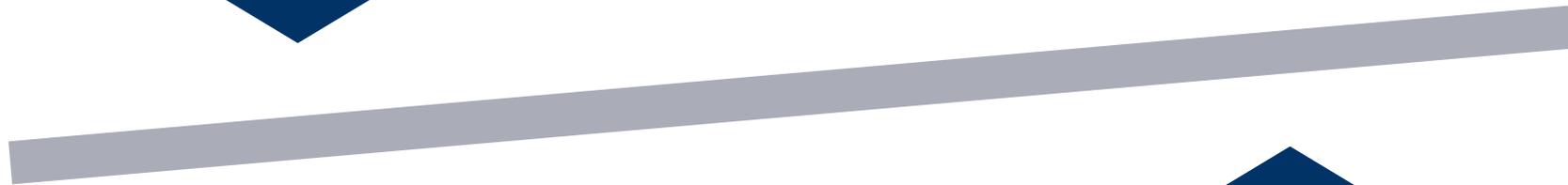
Measure of benefit or risk reduction vs. projected cost of FRBSR upgrades

- Comparison of expected cost of a blackout to the Annual FRBSR costs to determine if conversions are cost effective (RTO/ TO zonal level)



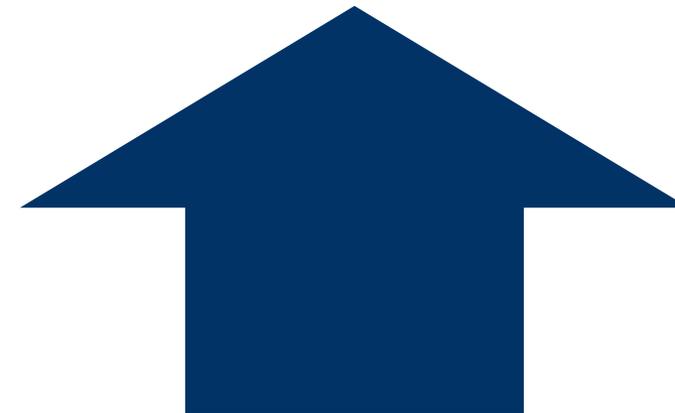
Blackout Expected Cost

- Cost of Blackout
- Probability of Occurrence



Cost of Fuel Assurance

- Fuel Assurance Level
- Fuel Assurance Annual Revenue Requirement



- Intent of additional analysis is to provide further supporting information and to better inform stakeholders regarding impact of proposed packages
- Incremental increase in restoration time analysis and gas pipeline impact study underway, cost balance analysis under development
- Estimated target to resume FRBSR activities:
 - Dec 2020 / Jan 2021

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**Fuel Requirements for Black Start
Resources (FRBSR)**



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