

Black Start Proposal

Minority Interest Compromise Proposal

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PJM used the CBIR process to address the Black Start IC

- The PJM stakeholder process uses the Consensus Based Issue Resolution (CBIR) Process to develop solutions with collaborative input from all stakeholders.
- The Operating Committee initially started using the CBIR process to discuss Black Start Problem Issue Charge (IC) in May, 2020
- Seven months were spent by stakeholders on the PJM CBIR process:
 - Education
 - Issue Identification
 - Component Details
 - Solutions Details
 - Package Matrix
- Four proposals were created – IMM, PJM, PJM Option #1 and Dominion Energy.



On December 3 minority voices were silenced in the OC

- The December 3 Operating committee addressed two matters related to the Black Start proposals:
 - **REVISED** the May 2020 Issue Charge (Black Start Unit Involuntary Termination & Substitution Rules) to grandfather existing resources. The revised issue charge is on the next slide.
 - VOTE on the proposals – IMM, PJM, PJM Option #1, and Dominion Energy. [*As a result of the issue charge change material modifications had to be made to the IMM and PJM proposals.



PJM Operating Committee Minutes (Dec. 3)

Endorsements (9:30-11:00)

4. Black Start Unit Testing, CRF, Involuntary Termination, MTSL and Substitution Rules

- a. Dr. Paul Sotkiewicz, Elwood Energy (motion) and Sharon Midgley, Exelon (second) reviewed the proposed amendments to the Black Start Issue Charge to remove retroactive application of proposed CRF changes. **The amendments were approved by the Operating Committee with 151 (63%) in favor, 89 (37%) opposed, and 3 abstained.**

With the amended issue charge, the Chair deemed the application of the CRF change to existing Black Start resources out of Scope. Dr. Joe Bowring, IMM, made the following changes to the IMM solution package to conform to the update Issue Charge: The updated CRF rates and commitment periods would apply only to new Black Start resources. An updated presentation has been posted to PJM.com to reflect these updates.

- b. Becky Davis, PJM, reviewed the solution packages (PJM solution package, IMM solution package, PJM Option 1 solution package, and Dominion solution package) for the Black Start issue. The Operating Committee voted on these packages; **the PJM Option 1 package (83% in favor) will**

The Revised Issue Charge

- Voted upon and approved on the day of the vote – December 3, 2020.
- Incorporated a solution for existing black start resources into the issue charge
- Instantly forced changes to PJM and IMM proposals.



Black Start Unit Involuntary Termination & Substitution Rules

Issue Source

PJM has identified the following areas in PJM Black Start Service rules need review and additional clarification:

- 1) Testing Requirements for Black Start resources not compensated through Schedule 6A
- 2) Black Start Unit Substitution Rules
- 3) Black Start Termination Rules
- 4) Capital Recovery Factor (CRF) updates
- 5) Minimum Tank Suction Level (MTSL) Oil Carrying Costs

Issue Content

Work is intended to address specific Open Access Transmission Tariff (Schedule 6A Black Start Service) and PJM Manual language.

Key Work Activities and Scope

1. Education of current: Black Start testing requirements; Black Start Unit commitment, termination and substitution processes; and Capital Recovery Factors.
2. Update Black Start testing requirements.
3. Update requirements and guidance for Black Start Unit termination and substitution.
4. Update Capital Recovery Factors to align with current tax law and interest rates.
5. Review and endorse governing documents to implement requirements, guidance, and new tax laws as related to Key Work Activities 2, 3 and 4 listed above.

6. Update Minimum Tanks Suction Level recovery calculations.

6-7. Current Black Start Units receiving the capital cost recovery rate (Schedule 6A) and units already awarded in recent Black Start RFPs will continue with the commitment period and CRF rates as documented in the current Open Access Transmission Tariff, Schedule 6A, Black Start Service.

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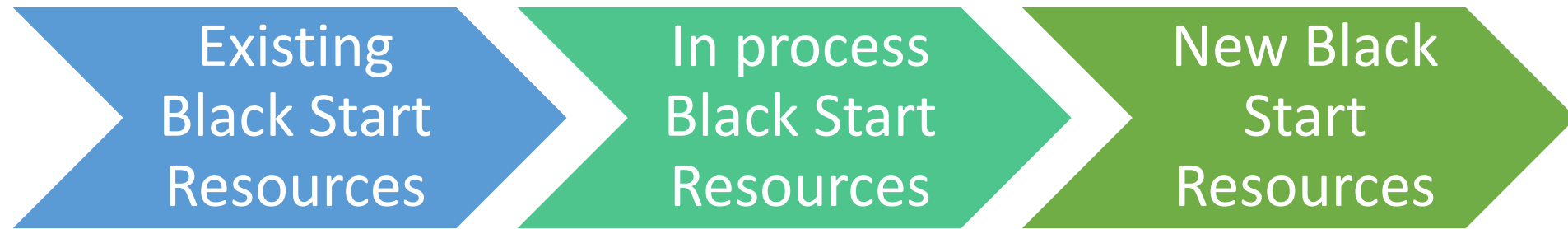
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What we are asking:

- To be heard....
- Minority interests should be allowed to speak:
 - Striking aspects of an issue charge on the day of a vote because you are the majority stifles discussion
 - Why not simply use your power to vote for your interest?
- Opportunities for compromise should be heard
- While the supply voting power in the lower committees can eliminate the voice of minority interests at any time, the PJM governing documents provides further opportunity for minority interests to bring proposals directly to the senior committee level – **and thus, we provide the following proposal.**

Three classifications of Black Start Resources

- A key difference in the proposals is how the CRF rate will be applied:



The IMM proposals included consistent application of the updated CRF for all three classifications going forward AND a clawback of revenues from existing resources.

The advocate compromise includes consistent application of the updated CRF for all three classifications going forward **but no clawback**.

The proposals voted down by Members in January only applied an updated CRF to new black start resources.

Summary of Compromise proposal

*comparison of proposals as of Nov. 2020

The proposal is centered around moving forward consistently on all resources.

Black Start Unit Testing

- Black Start Unit testing required every 13 months for Black Start Units under Schedule 6A or service agreement with Transmission Owners
- Testing requirement update to be added to Schedule 6A and Manual 12

Black Start Unit Substitution

- Clarifying language to address Black Start Unit substitution
 - ~~Substitute unit must be connected to the same bus~~
 - ~~Substitutions only permitted under very specific circumstances and with defined conditions~~ (Modified after 2/16 Special MRC discussion/)
- Substitutions must be supported by documentation (for operational or technical reasons)
- Substitution guidance to be added to Schedule 6A and Manual 12

Black Start Unit Termination

- Ability to terminate Black Start Service if Black Start Unit is unable to successfully black start test within 90 days following a failed test AND not working towards enabling black start capability/successful testing within a one year period
- Termination updates to be added to Schedule 6A and Manual 12

Minimum Tank Suction Level (MTSL)

- Black Start Unit eligible to recover Black Start Energy Tank Ratio of the MTSL in its fuel storage calculation
- Black Start Energy Tank Ration $\{(Fuel\ Burn\ Rate\ X\ Minimum\ Run\ Hours)/(Tank\ Capacity - MTSL)\}$

Blank font = agreement, Blue font= proposed by IMM, and Green font= PJM/Domini

Summary of Compromise proposal

*comparison of proposals as of Nov. 2020

Black Start Capital Recovery Factor (CRF)

- Remove CRF from Schedule 6A and add new Manual 15 Section documenting CRF methodology; and post annual CRF tables (plus historical CRFs) via PJM website
- Testing requirement update to be added to Schedule 6A and Manual 12
 - ~~CRF interest rate assumption: Moody's Utility index bond rate Baa1. (Modified position after the 2/16 Special MRC.)~~
 - CRF interest rate assumption: ATWACC from Quadrennial Net CONE review with "significant change protection" for major interest rate changes between Quadrennial Reviews"
- CRF Annual updates include changes in federal tax rate, average state tax rates and interest rate changes
 - Updated CRF rates apply to new/existing Black Start Units - *apply to all resources on a going forward basis
 - ~~*Tied to the one above—Updated CRF rates, including annual updates, apply only to Black Start Units selected in RFPs after the effective date of Tariff changes.~~
 - Updated commitment periods apply to new/existing Black Start Units
 - ~~*tied to the one above—Updated commitment periods apply only to Black Start Units selected in RFPs after effective date of Tariff changes~~
- Unit commitment periods removed from CRF Table.

Based on PJM's initial proposal slide 12 of initial 12/3/2020 posting

Commitment Period – Life of Unit

Capital Recovery Period – 5,10,15,20 years (based on unit age)

Exit provisions -- At least one-year advance notice

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