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Black Start PS/IC: Summary of Proposals

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Markets & Reliability Committee

December 17, 2020

- December 3 Operating Committee Meeting
 - [Presented four solution packages](#) – IMM; PJM; PJM Option #1; and Dominion Energy at the Operating Committee Meeting
- OC Voting results
 - PJM Option 1 package (main motion) – 83% in favor
 - Dominion package (alternate motion) – 82% in favor
 - PJM package – 43% in favor
 - IMM package – 7% in favor

Black Start Problem Statement / Issue Charge, [Operating Committee Meeting](#)

- ❑ Black Start Testing
 - ❑ Testing Requirements for Black Start resources not compensated through Schedule 6A
- ❑ Black Start Unit Termination
 - ❑ Termination rules for Black Start Unit that either fail or not perform a black start test and remain without a successful black start test on file for an extended period of time
- ❑ Black Start Unit Substitution
 - ❑ There is an increase in questions around Black Start unit substitutions
 - ❑ additional clarification to the existing substitution process rules are needed

- ❑ Update Capital Recovery Factors
 - ❑ Update Capital Recovery Factors to align with current tax law and interest rates

PJM's position is the CRF changes should only apply to units awarded in future Black Start RFPs

- ❑ Update Minimum Tank Suction Level Recovery
 - ❑ Revised Minimum Tank Suction Level calculation to reflect what portion is solely necessary for Black Start

Black Start Unit Testing

	PJM Option 1 & Dominion
Black Start Unit testing required every 13 months for Black Start Units under Schedule 6A or service agreement with Transmission Owner	X
Testing requirement update to be added to Schedule 6A and Manual 12	X

Black Start Unit Substitution

	PJM Option 1 & Dominion
Clarifying language to address Black Start Unit substitution	X
Substitutions must be supported by documentation (for operational or technical reasons)	X
Substitution guidance to be added to Schedule 6A and Manual 12	X

Black Start Unit Termination

	PJM Option 1 & Dominion
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	X
Termination updates to be added to Schedule 6A and Manual 12	X

Minimum Tank Suction Level (MTSL)	
	PJM Option 1 & Dominion
Black Start Unit eligible to recover Black Start Energy Tank Ratio of the MTSL in its fuel storage calculation	X
Black Start Energy Tank Ratio = $\{(Fuel\ Burn\ Rate \times Minimum\ Run\ Hours) / (Tank\ Capacity - MTSL)\}$	X

Black Start Capital Recovery Factor (CRF)

	PJM Option 1 & Dominion
CRF Annual updates include changes in federal tax rate, average state tax rates and interest rate changes	X
Updated CRF rates, including annual updates, apply only to Black Start Units selected in RFPs after the effective date of Tariff changes	X
Updated commitment periods apply only to Black Start Units selected in RFPs after effective date of Tariff changes	X
Unit commitment periods removed from CRF Table	X
Remove CRF from Schedule 6A and add new M-15 Section documenting CRF methodology; post annual CRF Tables (and historical CRFs) via PJM website	X
CRF interest rate assumption: ATWACC from Quadrennial Net CONE review with “significant change protection” for major interest rate changes between Quadrennial Reviews	X

Black Start Capital Recovery & Commitment Periods		
	PJM Option 1	Dominion
Commitment Period	20 yrs or greater (unit may offer more in RFP)	Capital Recovery Period + 3 yrs (20 year max unless unit offers more in RFP)
Capital Recovery Period	5, 10, 15, 20 yrs (based on unit age)	5, 10, 15, 20 yrs (based on unit age)
Exit Provisions	≥ 1 year advance notice *	≥ 1 year advance notice *

- Unit retirement / deactivation with at least one year's advance notice *
- Expiration of a state, federal, or other governmental agency permit(s) required for Black Start Service with at least one year's advance notice *
- Additional capital is required to maintain Black Start Service (unit is required to bid into RFP process, and, if selected, will continue to provide Black Start Service) *
- PJM terminates Black Start Service with at least one year's advance notice *

If commitment period is less than recovery period, & Black Start Unit terminates the provision of Black Start Service, generator foregoes any additional revenues.

Comparison of Package Recovery & Commitment Periods

Black Start Capital Recovery & Commitment Periods			
Age of Unit	PJM Option 1 & Dominion	PJM Option 1	Dominion
	Capital Recovery Period	Black Start Commitment Period	
0 – 5 Years	20 Years	20 Years or optionally longer	20 Years or optionally longer
6 – 10 Years	15 Years	20 Years or optionally longer	18 Years or optionally longer
11 – 15 Years	10 Years	20 Years or optionally longer	13 Years or optionally longer
16+ Years	5 Years	20 Years or optionally longer	8 Years or optionally longer

Conditions for exiting Black Start Service earlier from previous slide apply

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