



Joint and Common Market

FREEZE DATE ALTERNATIVES



Background

- Reference date of April 1, 2004, known as “Freeze Date”, is used as mechanism to determine firm rights on flowgates based on pre-market firm flows.
- As we move further away from the current Freeze Date (>14 years), issues with the current date become prominent.
- RTOs and their stakeholders agreed that there is a need to work on Freeze Date alternatives.

Phase II – Full Freeze Date Solution

- CMP scheduled to finalize Phase II solution by March 1, 2019
 - Pending planning discussion (Design components - 15)
 - Possibility of delay in Phase II solution due to planning discussions
- Updated Freeze Date whitepaper will be posted by April 1, 2019
- Phase II solution full implementation tentatively scheduled for June 2020



Proposed Solution: Allocations of FFE Involves 4 Steps

Step 1

Bucket 1

- Active DNR/NRs (2004 and earlier)
- Active Historic TSRs
- LBA Granularity

Step 2

Bucket 2

- Active DNR/NRs (Post 2004)
- Active TSRs (Post 2004)
- LBA Granularity
- Priority Rights

Step 3

Bucket 3

- Transfers (limited) Excess LBAs serve short LBAs
- LBA Granularity
- Priority Rights
- 8 Year Transition period to retire this step

Step 4

Bucket 4

- Market wide transfers based on planning
- RTO Granularity
- Priority Rights
- Excess to Owner

Phase II Design Components from Whitepaper

1. Granularity
2. Network/DNR Resource
3. Generator Merit Order
4. TSRs
5. Transfers
6. Impact Calculation Methodology
7. Allocation Methodology
8. Excess Capacity
9. Allocation Run Types
10. Higher of Logic
11. Allocation Adjustments
12. Firm Flow Limits (FFL)
13. Available Share of Total Flowgate Capacity (ASTFC)
14. Firm Flow Entitlements (FFE)
15. Addressing Parallel Flows through Planning

1. Granularity

Refers to the relationship between load and generation (LBA vs. RTO) used for the purpose of calculating Gen-to-Load impacts on a flowgate

	Bucket	Generation Used	Load Served
B1	Preserves Historical LBA Granularity	Native LBA	Native LBA
B2		Native LBA	Native LBA
B3	Transfers for unserved Load	Excess Generation LBAs pro-rata	Short Load LBAs
B4	Economic Dispatch	RTO	RTO

2. Network/DNR Resource

- In CMP Process Network/DNR resources studied to serve load in planning processes are referred to as Congestion Management Resources (CMR)
- CMRs are further classified as Freeze Date CMRs and Post Freeze Date CMRs depending on In-Service date

Bucket	Generation
B1	Freeze Date CMRs (Pre 2004)
B2	Post Freeze Date CMRs (Post 2004)
B3	All CMRs
B4	All CMRs

3. Generator Merit Order

All generation MWs are categorized in 4 Classes and dispatched by merit order priority

- Class 1: includes all Freeze Date CMRs
 - Merit order priority of units will be 1 to 20000
- Class 2: includes all Post Freeze Date CMRs
 - Merit order priority of units will be 20001 to 40000
- Class 3: includes all Freeze Date Energy Only Resources
 - Merit order priority of units will be 99999
- Class 4: includes all Post Freeze Date Energy Only Resources
 - Merit order priority of units will be 100000

4. Transmission Service Reservations

Indicates which TSRs will be used in the Freeze Date Phase II process

Bucket	TSR
B1	Active Pre-Freeze Date Firm Inter TSRs
B2	Active Post Freeze Date Firm Inter TSRs with Rollover rights
B3	None
B4	All Active Pre & Post Freeze Date Firm Inter TSRs

5. Transfers

- Transfers occur after Bucket 2
- Bucket 3 Transfers – Reliability Transfer to Serve Load
 - Excess LBAs serve short LBAs on a pro-rata basis, up to the remaining BA load
 - MISO South-Midwest 1000MW Transfer Limit honored
- Bucket 4 Transfers – Economical Dispatch
 - Economical Generation is dispatched to serve RTO Load
 - MISO South-Midwest 1000MW Transfer Limit honored

6. Impact Calculation Methodology

Impact calculation refers to the calculation of firm transmission reservation impacts and generation-to-load impacts on flowgates which are then used in determining the allocations on each flowgate

$$\text{Total Impact on Flowgate} = \text{Sum of } (B1, B2, B3, B4_{\text{Incremental} > 0})$$

- Bucket 1
 - Serve active Freeze Date Inter-BA TSRs
 - Serve LBA Load using Freeze Date CMRs
- Bucket 2
 - Serve remaining Active Inter-BA TSRs
 - Serve LBA Load using Post Freeze Date CMRs
- Bucket 3: LBA Reliability Transfers
 - Excess LBAs serve short LBAs on a pro-rata basis, up to the remaining BA load
- Bucket 4: Incremental
 - Serve RTO Load using RTO Dispatch
 - Bucket 4 Incremental Impact = Bucket 4 RTO Impact - sum of B1, B2, B3 Impact

7. Allocation Methodology

Process of how impacts from four buckets are prioritized and allocated such that the flowgate limit is respected

- Buckets 1 & 2 (>5%) impacts has the highest priority
- Priority rights in Buckets 2 (<5%), 3(<5%) and 4(>5% & <5%)
 - Owner of a Reciprocally Coordinated Flowgate (RCF) receives their impacts before any loop flows/impacts from neighboring entities are allocated
- Non-owner's impacts below 5% impact on a flowgate will not receive transmission rights in Bucket 3 and 4
- Unallocated capacity to Owner

	B1		B2		B3		B4	
	Owner	Non-Owner	Owner	Non-Owner	Owner	Non-Owner	Owner	Non-Owner
>5%	1			2		3	8	9
<5%	4		5	6	7	N/A	10	N/A

8. Excess Capacity Allocation

Process of allocating the remaining capacity on a flowgate after all entities have allocated their calculated impacts from each bucket

Current Process

- Pro-rata to all reciprocal CMP entities

Phase II Solution

- Flowgate owner will receive allocations for any excess capacity
- Ensures that owner of flowgate has first priority on their transmission system

9. Allocation Run Types

Future allocations (18 month to 2-day) are needed for Transmission Service sales, Day Ahead Markets, and FTR Auctions to respect these future limits

Horizon	Run Time	Range (Current)	Range(Phase II)
Seasonal	Every April 1st and Oct 1st	Monthly value for the next 12 months starting 6 months from the Run Date	N/A
Monthly	Second day of every month	Monthly value for the next 6 months	Monthly value for the next 18 months
Weekly	Every Monday	Daily value for the next 7 days starting 7 days from the Run Date	
2Day Ahead	Every Day	Daily value for day after tomorrow	
DA	Every Day	Hourly value for next 24 hours	

10. Higher of Logic

Purpose is to retain the Allocation value used by an entity used for selling of Transmission Service

- **Current Process**
Highest allocation value from seasonal to 2-DA Run times will be used
- **Phase II Solution**
Highest allocation of latest monthly, weekly and 2DA allocation runs

	Run Types	Calc Results	Final Results
Current	Seasonal	100	100
	Monthly	80	100
	Weekly	60	100
	2DA	20	100
Future	Monthly	80	80
	Weekly	60	80
	2DA	20	80

11. Allocation Adjustments

For maximum use of transmission system CMP allows the exchange of unused allocations when needed for sale of firm transmission service. The entity providing allocation will reduce the allocation and borrowing entity will increase the base allocation

- Current Process
 - Allocation Adjustments apply to ASTFC, FFL, FFE Process
- Phase II Solution
 - Allocation Adjustments apply to ASTFC, FFL, but not to FFE

12. Firm Flow Limits (FFL)

Firm Flow Limits (FFL) are used for Establishing Firm and Non-Firm Market flow buckets for curtailment under TLR

- Current Process
 - FFL uses directional allocations and schedules
 - Allocations are not capped
- Phase II Solution
 - FFL continue to uses directional allocations and schedules
 - Allocations are capped after Bucket 2

13. Available Share of Total Flowgate Capacity (ASTFC)

Allocations are honored to allow sale of new firm transmission service. Protects from overselling of firm transmission service which could cause congestion in real-time

- Current Process
 - ASTFC uses directional allocations
 - Allocations are not capped
- Phase II Solution
 - ASTFC continue to use directional allocations
 - Allocations are capped after Bucket 2

14. Firm Flow Entitlement (FFE)

Firm Flow Entitlement (FFE) are used for Market to Market Settlements; non-owner pays when real time market flow over FFE

- Current Process
 - FFE uses directional allocations and schedules
 - No FFE capping
- Phase II Solution
 - FFE uses net allocations and net schedules
 - FFE will be capped to Flowgate limit

15. Address Parallel Flows Through Planning

- Parallel flows occur as generation interconnects to the system
- Parallel flows should be accounted for in the planning process
 - Difficulty arises from entities using different planning methods, calculations of parallel flow, and the upgrades identified
- Entities are committed to improved coordination with neighbors
 - Notify affected systems of potential impacts
 - Jointly determine a process to fix the issue

Tentative Timeline

Due Date	Action
April 1, 2019	CMP Council vote – Phase 2 solution
April 1, 2019	Whitepaper posting for Stakeholders
Q1/Q2 - 2019	Review Phase II solution with Stakeholders
Q2/Q3 - 2019	Submit CMP/ JOA changes in FERC filing
June 1, 2020	Full Implementation (tentative)

Contacts

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