



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 (>15 years), issues with the current date have become prominent.
- RTOs and their stakeholders agreed that there is a need to work on Freeze Date alternatives.

# Phase II – Freeze Date Solution Update

## FFE

- Markets are close to finalizing FFE solution
- Corrected a technical issue in net allocation calculation
- Working through mock analysis to verify:
  - Bucket 4 calculations
  - Net allocation calculation
- Finalize Whitepaper

## FFL

- Evaluating whether FFE solution could work for FFL
- Non-Markets may have concerns with phase II proposal
- Potential concerns with inclusion of post Freeze Date network resources and Inter-BA Firm TSRs in Bucket 2
- CMPWG exploring alternative solutions to address Non-Markets concerns

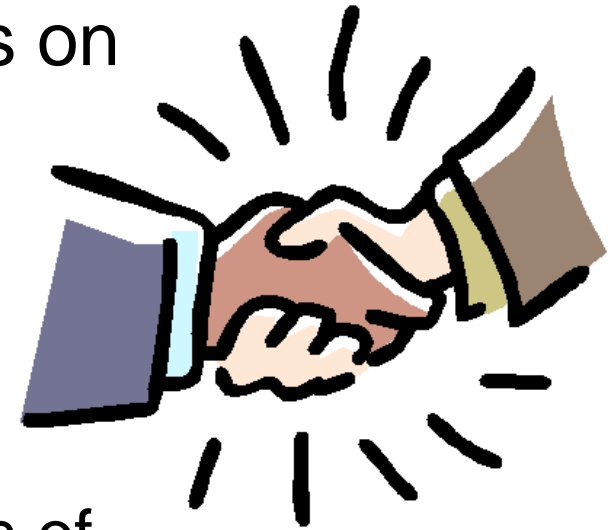
## CMPWG Priority

- Finalize FFE solution
- CMPWG/CMPC vote on FFE full solution
- Post Whitepaper for stakeholders once the FFE solution is finalized (Late Dec 2019)

# CMPC Motion for Path Forward

Approved motion to move forward with a market only FFE solution. CMPWG will also continue discussions on a FFL solution. This includes the following:

- Finalize Whitepaper for FFE
- Develop final CMP and JOA changes for FFE
- Engage OATI for cost and time estimates
- Communication to stakeholders
- Determine implementation and filing date after return of OATI estimates
  - It is expected to be known by this point whether a potential FFL solution is agreeable to all parties and can be incorporated with FFE solution



# How FFE and FFL is Used

## FFE- Firm Flow Entitlement (Net)

- Market to Market Real-time congestion payments with market entities; non-owner pays when real time market flow over FFE (MISO/SWPP/PJM)
- Day Ahead Market uses FFEs to determine limits for next operating day
- FTR Auctions uses the limit for flowgate's in yearly and monthly auction process

## FFL-Firm Flow Limit (Directional)

- Sets the Firm and Non-Firm Market Flow limits for markets flows in TLRs process
- Used in sale of Firm Transmission approval process



# Proposed FFE Solution



# 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

## Step 4

### Bucket 4

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

Total Impact = Bucket 1+ Bucket 2+ Bucket 3 +Prevailing Bucket 4

# 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

$$\begin{aligned}\text{Total Impact on Flowgate} &= \text{Historic LBA impact} + \text{Prevailing bucket 4 impact} \\ &= (B1+B2+B3) + (PB4) \text{ impact}\end{aligned}$$

- Bucket 1
  - Serve active Freeze Date Inter-BA TSRs
  - Serve LBA Load using Freeze Date network resources
- Bucket 2
  - Serve remaining active Inter-BA TSRs
  - Serve LBA Load using Post Freeze Date network resources
- Bucket 3
  - Excess LBAs serve short LBAs on a pro-rata basis
- Bucket 4
  - Serve RTO Load using RTO Dispatch
  - Bucket 4 prevailing Impact = Bucket 4 RTO Impact - sum of B1, B2, B3 Impact



# Prevailing Bucket 4 for FFE

- The prevailing bucket 4 impacts represent the change or delta impact between historical LBA to RTO dispatch
- Mainly applicable to markets entities (MISO/SWPP/PJM)
- The prevailing bucket 4 calculation differs for year 0, year 4, and year 8 to allow for phase out mechanism of bucket 3

## **PB4 Impacts = Net RTO(B4) - Net LBA(B1+B2+B3) impacts**

- For Year 0 to 4: PB4 impacts are capped to Zero if negative **(Historical LBA impacts higher priority)**
- For Year 4 to 8: PB4 50% counter flows included if negative & Bucket 3 is capped to 50%
- From Year 8 : PB4 100% counter flows included if negative & Bucket 3 step is retired

For year 0 to 4 PB4 counter flows are not included as the bucket 4 counter flows should not reduce the Historic LBA impacts

# Prevailing Bucket 4 calculation

Gen-to-Load and Firm TSR Impacts									
Case	Bucket 4 RTO Dispatch	Bucket 1 to 3 LBA Dispatch	Prevailing Bucket 4 (RTO-LBA)				Final Impacts (LBA+PB4)		
			RTO- LBA	Year 0	Year 4	Year 8	Year 0	Year 4	Year 8
1	60	20	40	40	40	40	60	60	60
2	50	100	-50	0	-25	-50	100	75	50
3	50	-25	75	75	75	75	50	50	50

\* In this example Bucket 1 to 3 LBA impacts are constant for year 0,4,8 for simplicity

PB4 net impacts on a flowgate are capped if the sum of B1, B2, B3, and PB4 impacts exceeds the net RTO Dispatch

# Prior Proposal

## Allocation/Curtailment Priority Rank Proposal for FFE

		B1				B2				B3				Prevailing B4				
Net Impact		Owner	CMP RCF	CMP Non-RCF	Third Party	Owner	CMP RCF	CMP Non-RCF	Third Party	Owner	CMP RCF	CMP Non-RCF	Third Party	Owner	CMP RCF	CMP Non-RCF	Third Party	
>5%	Priority Rank	1				2				3				10	11			
<5%		4		5	N/A	6	7	8	N/A	9	13	14	N/A	12	15	16	N/A	

- Total impact on a flowgate determined by adding up impacts 1 through 16
  - Third Party <5% are not counted towards Total impact (same as today)
- Allocations are only granted for impacts in blue (priorities 1,2,3,4,6,7,9,10,11,12)
  - >5% Impacts are allocated to all Entities (FFE only)
  - <5% impacts are only allocated to owner in B3 & B4
  - <5% Impacts in red are not allocated but counted towards Total impact
- Over allocation or Excess capacity is determined by comparing Total impacts (1-16) to Rating
- If FG over allocated, then allocations are removed starting at priority 16, until total considered allocations are at rating.
- If FG under allocated, then Excess capacity to owner

# Issues With Prior Proposal

- When  $<5\%$  and  $>5\%$  flows oppose each other, the potential for skewed allocation occurs:
  - e.g.
    - +800MW of net impact for NMRTO in priority 11 ( $>5\%$  PB4)
    - -800MW of net counter-flow impact for NMRTO in priority 15 ( $<5\%$  PB4)
    - Net 0MW impact in PB4 as a whole, but proposal allows NMRTO to allocate 800MW of priority 11 flows
    - Priority 15 not eligible for allocation
- $<5\%$  impacts, while uncoordinated in the planning processes, contribute to both flowgate loading **and** flowgate relief
- Allocating only a subset of impacts can lead to unintentional skewing of final allocations

# New Proposal

## Allocation/Curtailment Priority Rank Proposal for FFE

		B1				B2				B3				Prevailing B4									
Net Impact		Owner	CMP RCF	CMP Non-RCF	Third Party	Owner	CMP RCF	CMP Non-RCF	Third Party	Owner	CMP RCF	CMP Non-RCF	Third Party	Owner	CMP RCF	CMP Non-RCF	Third Party						
>5%	Priority Rank	1				2				3				9	10								
<5%		4				N/A	5	6				N/A	7	8				N/A	11	12			

- Total impact on a flowgate determined by adding up impacts 1 through 12
  - Third Party <5% are not counted towards Total impact (same as today)
- **All** impacts are eligible for allocation except Third Party <5% impacts
  - >5% Impacts are allocated to all Entities
  - <5% impacts are allocated to all CMP entities
  - Over Impacted Flowgates or Excess capacity is determined by comparing Total impacts (1-12) to Rating
- If FG over impacted, then impacts are removed starting at priority 12, until total considered impacts are at rating
- Non-owner CMP entities curtail <5% flows before owner in B2,B3,B4
- If FG under impacted, then Excess capacity to owner

# Potential Solution to Non-Markets Concern

Non-Markets have concerns with Phase II proposal

- Concerned with increase in firm limits for markets due to inclusion of Post freeze date network resources & firm inter TSRs in bucket 2; which could lead to more TLR-5 firm curtailment obligations for Non-Markets

CMPWG Potential Solution (**Under discussion**)

- Mechanism to cut a portion of firm market flows before TLR 5 when TLR 3 (Non-Firm Market flow) does not provide adequate relief

# Next Steps

- Market Based Operating Entities to continue to work towards resolution on the FFE path
  - Mock Analysis
  - Whitepaper
- Continue to work on FFL solution in parallel with the CMPWG
- Continue planning discussions with neighbors with the goal of improving coordination
- Post the White Paper detailing the FFE solution at the February JCM

# Tentative Timeline

Due Date	Action
Dec 2019	CMPWG Agreement on Phase II FFE Design
Dec 2019	White Paper Posting for FFE
Q1 2020	Review Final Phase II solution with Stakeholders
Q1 2020	OATI Cost Estimate
Q2 2020	Review CMP/JOA Changes with Stakeholders
Q2 2020	File CMP/JOA Changes with FERC
Q3 2020	Software Development & Testing
June 2021	Final Phase II Implementation



# Contacts

Solicit stakeholder feedback – send comments to:

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