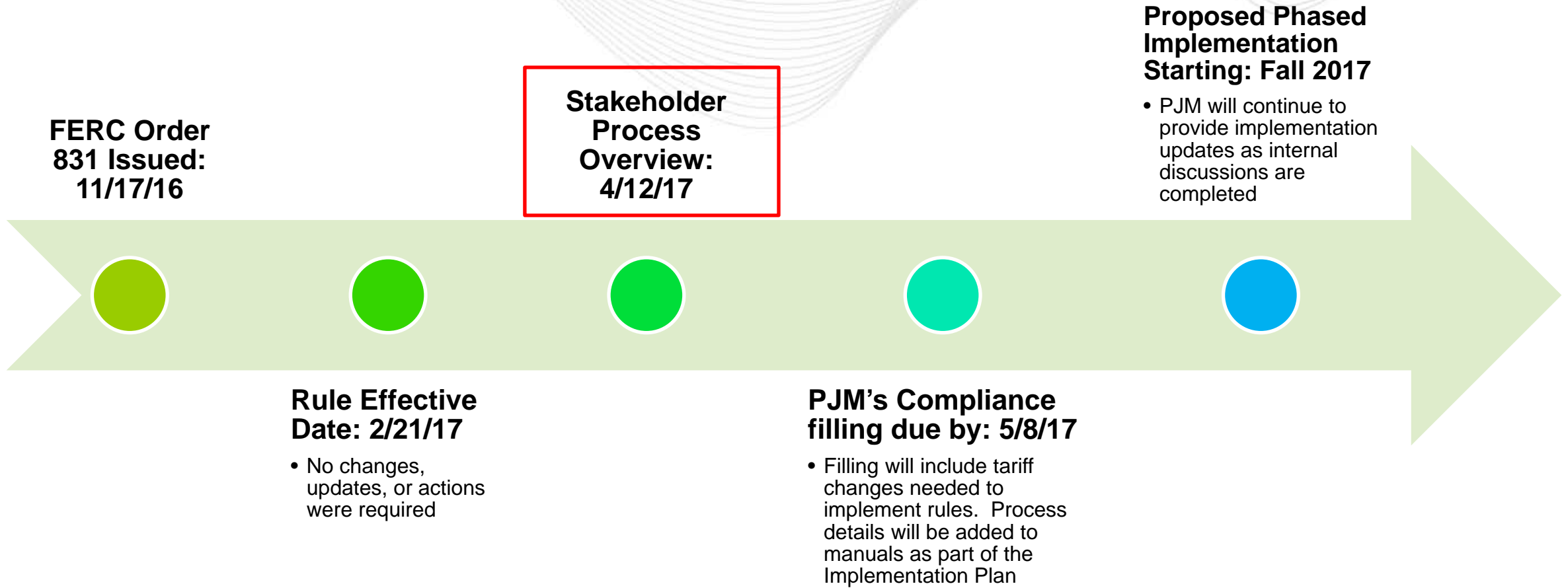


FERC Order 831 Offer Cap Verification Update



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Market Implementation Committee
April 12, 2017

- Offer Cap Verification Timeline
- Process Overview for Generators and Demand Response
- Generator Data Collection Overview
- Demand Response Example



*Please Note: The current tariff rules are in effect until FERC accepts the compliance filing

Offer Cap Verification Process Overview

Offer Cap Verification Process is for Cost Schedules Only

Generators:

Data Collection

- Data entry or import required to complete cost calculations

Max Cost Limit Calculation

- Formula utilized to calculate the maximum cost allowed (unit specific by fuel type)

Verification Process

- Verification logic and processing for cost offers above the Max Cost Limit Value

Exception Process

- Market Seller process to submit exception requests for the Max Cost Limit Value

Demand Response (Economic and Load Mgmt.):

Data Collection

- Data entry required to confirm costs

Max Cost Limit Enforcement

- Costs above \$1,000 will be subject to the Verification Process

Verification Process

- Member verification of costs and supporting documentation provided

Exception Process

- Costs above \$1,000 may be submitted-costs and verification must be submitted

Generators:

Data Collection

- Data entry or import required to complete cost calculations

Max Cost Limit Calculation

- Formula utilized to calculate the maximum cost allowed (unit specific by fuel type)

Provided by Market Seller

Unit Data

Heat Input

- Input/Output
- Polynomial

Performance Factor

VOM Emissions Other Adders

Bid Data

No Load (\$/hr)

Price/MW Pairs

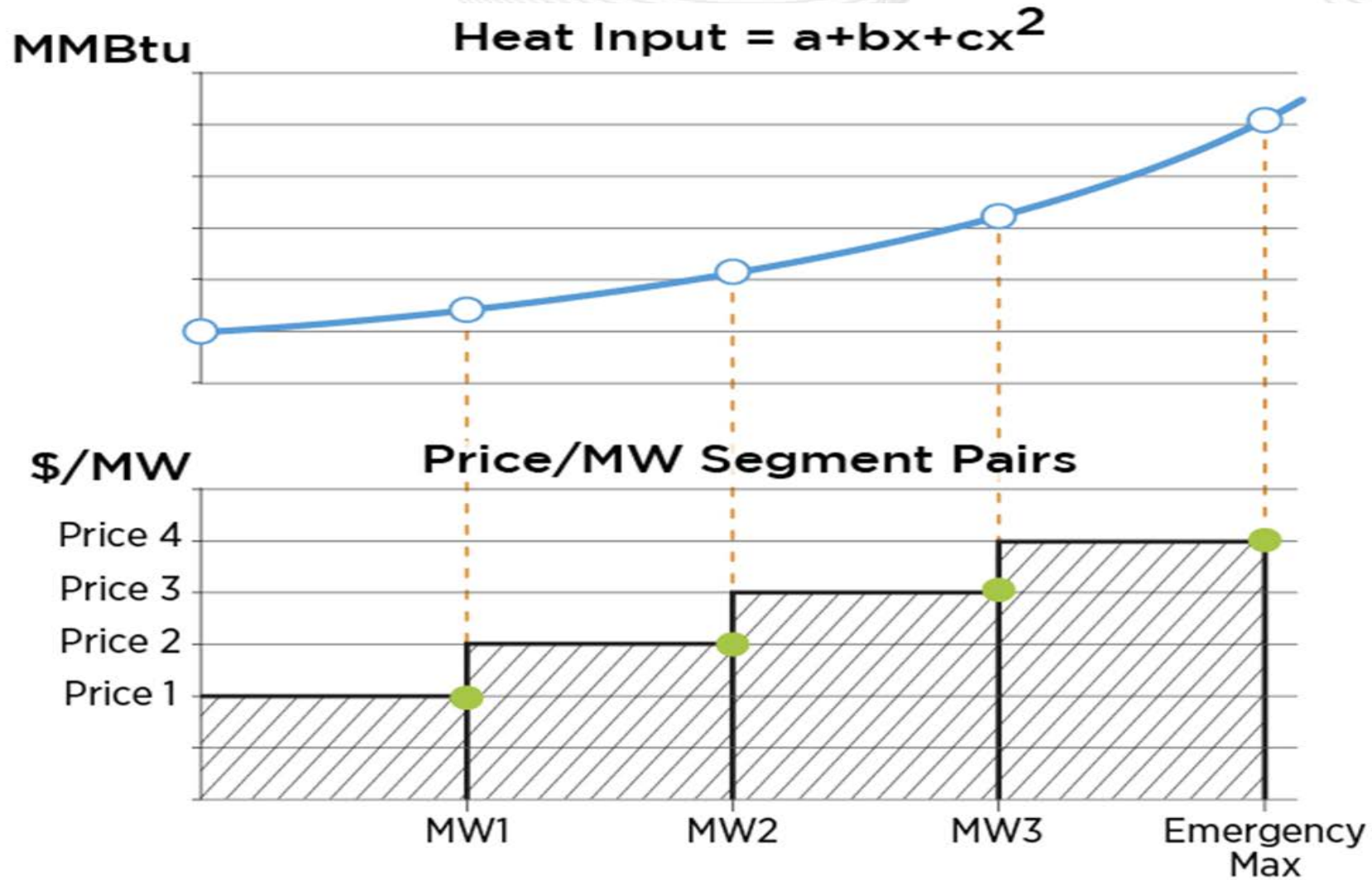
Emergency Max MW

3rd Party source referenced by PJM

Fuel Data

Fuel Price (\$/MMBtu)

- For each segment MW offer
 - PJM to calculate maximum allowable operating rate using:
 - Participant provided heat input curves
 - Third party commodity costs, for fuel specified on schedule
 - PJM to calculate maximum allowable segment incremental cost using:
 - Participant provided no-load & cost schedule price/mw pairs
 - Compare submitted segment offers to PJM calculated maximum allowable segment incremental cost
- All segments must be less than or equal to PJM's calculated value for schedule to set price without an exception



Verification Process

Generators:

- Verification logic and processing for cost offers above the Max Cost Limit Value

- Cost Offers above \$1000 will be validated against the Calculated Max Cost Limit. Market Sellers wishing to submit cost offers above the Max Cost Limit must follow the Exception Process
- Offers above \$2,000 cannot be used to set LMPs

Exception Process

Generators:

- Market Seller process to submit exception requests for the Max Cost Limit Value

- Market Seller must contact PJM and provide required documentation if they want to submit a cost offer that is greater than the Max Cost Limit
 - Examples of documentation include: Screenshots, instant messages, text messages, emails or recorded phone calls, to verify cost differing from Max Cost Limit
 - Example: Gas price fluctuations or uncertainty during cold weather may cause changes to values calculated for Max Cost Limit
- Phased approach for Exception Process
 - Manual vs. automated processing for requests

Demand Response Offer Cap Verification Process

Economic DR and Load Mgmt.:

Data Collection

- Data entry required to confirm costs

Max Cost Limit Enforcement

- Costs above \$1,000 will be subject to the Verification Process

Verification Process

- Member verification of costs and supporting documentation provided

Exception Process

- Costs above \$1,000 may be submitted- costs and verification must be submitted

- DR cost verification process the same for both Economic DR (in Markets Gateway) and Load Management (DR Hub)
- DR staggered offer cap for Load Management (Emergency/Pre-Emergency DR) will be eliminated
- All lead times will have \$1,000 offer cap unless Offer Cap Verification Process is followed
- Offers above \$1,000 will be subject to the Offer Cap Verification Process:
 1. Provide cost summary with details of incremental costs
 2. Confirm they have the supporting documentation available
- Offers less than \$1,000, No verification is required
- Offers above \$2,000 may be submitted, but cannot be used to set LMPs

Example: Economic DR (Injection Molding Company) with offer price= \$1,150

1. Cost Summary Example:

Incremental Cost (\$/Mwh)	Incremental Cost Description
Labor cost – employees sent home with pay, no work/product produced	\$900.00
Damaged product net cost - Product cannot be sold and material needs to be recycled (ie: bottle caps in injection molds damaged and need to be recycled). Net cost = Cost to make product minus recycle value.	\$250.00
Cost Summary	\$1,150.00

2. Market Seller certification for documentation Example:

(check box in tool)

I certify that I have verified and documented the registration’s incremental cost in detail as summarized above and in compliance with PJM rules.

- Further discussions and review, including more detailed review of Max Cost Limit Calculation Review:
 - 4/26 SOS
 - 5/2 OC
 - 5/3 MIC
- Compliance Filing due by 5/8/17