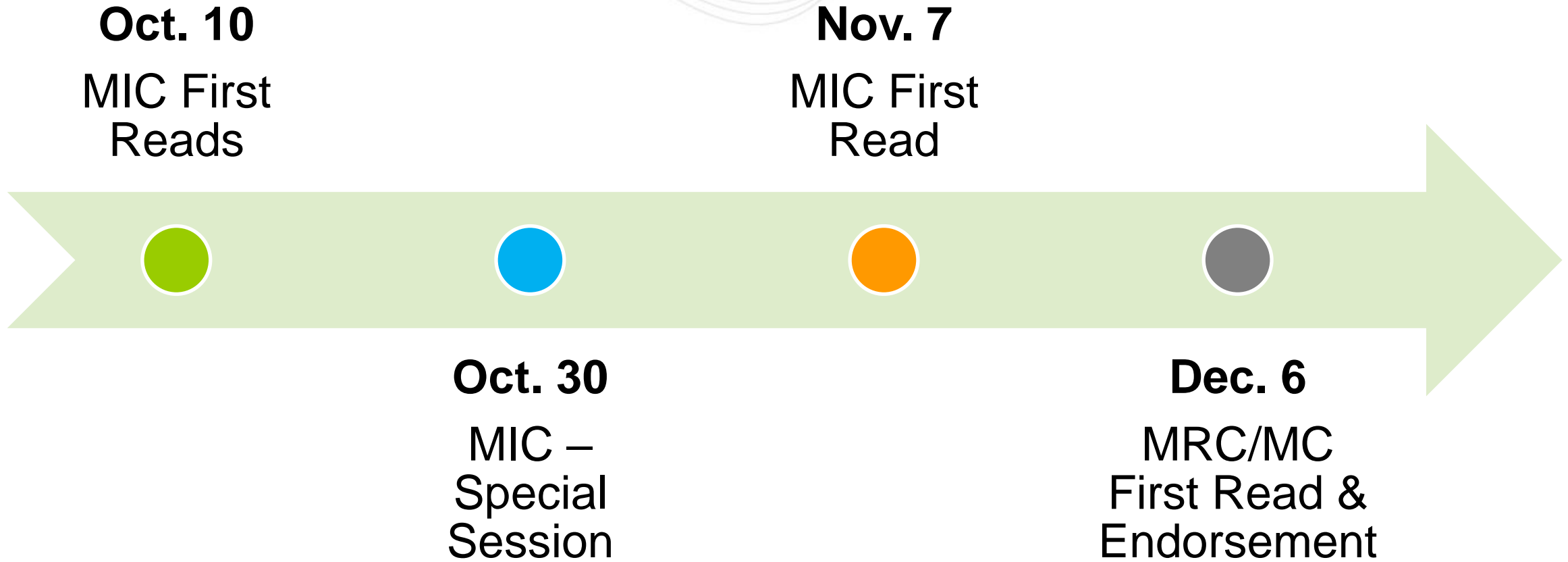




Gas Contingency Switching Compensation Proposals

Market Implementation Committee
October 10, 2018

- Issue was identified at the December 2017 MRC meeting while approving changes to Manuals M3 and M13 to address gas contingency impact on the electric system
- Problem statement and issue charge approved at January MRC and assigned to MIC
 - Examine costs associated with Operationalizing Gas Pipeline Contingencies



- Two proposals have been developed at the special session:
 - Package A
 - Package B (PJM Proposal)
- Both packages address mechanisms for cost recovery from a gas contingency switching event. Differences are highlighted on slides 8 & 9.

- Change governing documents (Tariff/OA/Manuals) to enable compensation for costs associated with fuel switching
 - Alternative fuel cost above active dispatch schedule
 - Pipeline charges – penalty charges, park & loan, documented gas balancing, and other pipeline tariff or documented charges
 - One start cost per switching event (if applicable)
 - Lost opportunity cost for reduced output

Generators that switch fuels or pipelines via PJM dispatch instructions either pre-contingency or post-contingency will not be assessed:

- Deviation charges while following PJM dispatch
- Performance assessment penalties between the PJM switching instruction and the unit reaching either the prior dispatch point or its current ECO basepoint

- Generators with switching costs will submit supporting documentation to PJM Settlements and IMM by the 5th Business day following issuance of the pipeline bill after the switching event.
- IMM will provide its input and advice to PJM on submitted costs within 5 business days
- PJM has final say on what are acceptable costs.
- Approved costs will be in the form of a make whole payment.

High Level Comparison:

Design Component	Package A	Package B
Gas Balancing (includes commodity and non-commodity costs)	Similar to Package B, except: <ul style="list-style-type: none"> • Include periods when the unit is damaged during switching • Post-contingency – not eligible if PJM determines unit was unable to operate without switch 	Costs are eligible for recovery
Deviation changes	Period covered: <ul style="list-style-type: none"> • Start – OI issued • End – sooner of: <ol style="list-style-type: none"> 1) Reaches basepoint after returning to original fuel 2) 10 AM the next operating day 	Period covered: <ul style="list-style-type: none"> • Start – OI issued • End – sooner of: <ol style="list-style-type: none"> 1) Reaches prior dispatch point 2) Reaches current ECO basepoint
Performance Assessment Penalty	Period covered: <ul style="list-style-type: none"> • Start – OI issued • End –unit returns to original fuel 	During the fuel switch, unit is following PJM direction. Period covered: <ul style="list-style-type: none"> • Start – OI issued • End – sooner of: <ol style="list-style-type: none"> 1) Reaches prior dispatch point 2) Reaches current ECO basepoint



High Level Comparison:

Design Component	Package A	Package B
Recovery of Day-Ahead profit	Includes Lost Opportunity Revenues Associated with using a Different Fuel (Fuel B). (Cost of Fuel B- Cost of Fuel A) * MWs (MWs includes what that would have been scheduled using Fuel A)	Costs are eligible for recovery
Recovery of future costs realized on future date	Costs are submitted to PJM and the IMM within 5 business days after receiving the bill.	
Startup costs	1 start per switching event	
Value for using limited run hours	Status Quo	
Schedule used in after-the fact settlement (during the transition)	Gen-weighted average cost of the hour(s) in which the switch occurred must be submitted	

Addendum

	Normal Mode – Constrained Electric/Gas System Conditions	Conservative Mode - Cyber/Physical Threat Conditions
Procedure Triggers	Cold/Hot Weather Alert Capacity Emergency Pipeline Operational Flow Orders (OFO) Pipeline Maintenance Outages / Force Majeures	Pipeline Cyber/Physical Threat
Decision Criteria	Compressor station / Gas pipeline sufficiently redundant?	Credible threats to multiple pipelines in the same area?
Pre-Contingency Control	Status Quo Pre-Contingency Re-dispatch (control to load dump ratings)	Same Pre-Contingency Fuel/Pipeline switch
Post-Contingency Control	Status Quo Post-Contingency Fuel/Pipeline Switch	Same

Generators that switch fuels or pipelines following PJM dispatch instructions either pre-contingency or post-contingency are eligible to recover:

- Documented alternative fuel costs above the active dispatch schedule
- Gas balancing costs (must provide documentation and/or invoice)
- Penalty charges from the primary pipeline and/or the alternative pipeline
- Park and loan and other pipeline tariff charges
- Other documented pipeline costs

- Other recoverable costs include:
 - One start cost per switching event if start is required
 - Additional starts will not be compensated if the unit trips
 - Lost opportunity costs for reduced outputs if applicable

- Generators with emissions run hour limits will communicate such limits to PJM dispatch at the time of the PJM instruction. For units that have run hour limits, PJM will follow the guidance in Manual 13 Attachment M – Procedure for Obtaining a Temporary Environmental Variance.
- Generators that are Opted-in to Intraday Offers may update cost schedule in accordance with their Fuel Cost Policies to reflect the current commodity cost.