

MRC Endorsement Gas Contingency Switching Costs

Rich Brown
Manager, System operator Training
Markets & Reliability Committee
December 6, 2018

- Issue to address compensation 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
 - Held 10 MIC Special Sessions

Package	Yes	No	Abstain	% Support	Pass/Fail
A (Calpine)	109	37	19	75%	PASS
B (PJM)	62	108	32	36%	FAIL
C (Direct)	71	98	48	42%	FAIL
D (PJM2)	68	102	33	40%	FAIL

Purpose

Define a formula rate to compensate generators following a PJM Operating Instruction to switch fuel (source or type) for all costs and/or financial loss.

Gas Contingency Switching Costs = Gas Balancing Costs and Penalties + Other Gas Balancing Costs and Penalties + Start Up Costs + Real Time Lost Opportunity Revenue

Component	Status Quo	Calpine proposal
Gas Balancing Costs and Penalties (includes commodity and non-commodity costs)	<ul style="list-style-type: none"> Costs associated gas pipeline storage, park and loan, or other similar tariff-based rate for gas balancing can be included if the cost is included in the FCP and can be calculated prior to creating a cost-based offer. Penalties and gas balancing commodity costs – No Compensation 	<p>Pre-contingency issued Operating Instruction</p> <ul style="list-style-type: none"> Entitled to recovery <p>Post-contingency issues Operating Instruction</p> <ul style="list-style-type: none"> Entitled to recovery unless PJM can show the generator was unable to operate for a reason other than a result of the fuel switch
LOC – Reduced Output	LOC is subject to review	LOC based on initial fuel before a switch, reduction, or shutdown for the duration of the Operating Instruction event
Deviation charges (Operating Charge & DA v. RT LMP Differential)	No Operating Reserve charges for deviation (subject to review, assumes following dispatch)	<p>Exempt from Deviation charges during the following period:</p> <ul style="list-style-type: none"> Start: Issuance of Operating Instruction End: sooner of: <ul style="list-style-type: none"> Reaches basepoint after returning to original fuel 10 AM the next operating day
Capacity Performance Non-Performance Charge exemptions	<p>Exempt MWs include:</p> <ul style="list-style-type: none"> Associated with approved gen outage MWs not scheduled by PJM MWs scheduled down by PJM 	Exempt from the issuance of the Operating Instruction until the generator returns to the original fuel / source

Component	Status Quo	Calpine proposal
Real Time lost opportunity revenue (loss resulting from using different fuel / source)	No compensation	Entitled to recovery: $(\text{Cost of Fuel B} - \text{Cost of Fuel A}) * \text{Real Time MW}$ (MWs includes the quantity that would have been scheduled using Fuel A based on the greater of PJM Real Time or Day Ahead commitment)
Segments for Fuel Switch (BOR)		<ul style="list-style-type: none"> • New segment starts at issuance of Operating Instruction • Ends at the sooner of: <ul style="list-style-type: none"> – end of the Operating Instruction – end of the operating day
Schedule change availability	Schedules can only be updated if a unit has opted-in to Intraday offers	Generators (opt-in and (even those not on intraday offer updates) may: <ul style="list-style-type: none"> • update current schedules immediately after Operating Instruction notification • switch to alternate (another fuel) schedules if fuel switching.
Allocation of Costs	N/A (Costs are currently not compensated)	Allocated as part of make-whole compensation for reliability

- OATT
 - Att. K-Appendix, sec 3.2.3 (s): NEW: Gas Contingency Switching Costs; as well as changes to other aspects of operating reserves as needed.
 - Att. DD, sec 10A(d): revised to remove units following Operating Instruction to switch fuel/source from the Performance Shortfall calculation
- OA
 - Schedule 1, sec 3.2.3 (s): NEW: Gas Contingency Switching Costs; as well as changes to other aspects of operating reserves as needed.
 - Schedule 2 (potentially)
- Manual 11
 - 2.3.3: revised to account for Gas Contingency Switching Costs; allow any generator to update costs while following an Operating Instruction to switch fuel/source
 - E: NEW attachment related to submittal of Gas Contingency Switching Costs
- Manual 15
 - 2.3.8: NEW: Gas Pipeline Contingency Fuel Cost Calculation and Fuel Cost Policy
- Manual 18
 - 8.4a: revised Non-Performance Assessment
- Manual 28
 - 5.2.9: NEW: Credits for Resource Performing Gas Contingency Switching
 - 5.3: Credits associated with gas contingency switching are allocated as Balancing Operating Charges for reliability on a pro-rata share of real-time load plus exports