

# Market Efficiency

RPPTF  
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## Key issues

- Benefit/Cost test and cost allocation
  - Current vs. Transmission Owners' proposal
- Generation modeling
- Upgrade benefit determination



# Comparison of existing and Transmission Owners proposed definitions, cost allocations, and benefit/cost tests for Market Efficiency

		Market Efficiency	
		Current	TO Proposal
Definition	Regional Project	500 KV and higher*	500 KV and higher*  double circuit 345 KV lines where both circuits originate at same station and both circuits terminate at same station.
	Lower Voltage Project	Projects not defined as Regional Project	Projects not defined as Regional Project
Cost Allocation	Regional Project	Load Ratio share	50% Load Ratio Share and 50% to zones with decreased load payments
	Lower Voltage Project	100% to zones with decreased net load payments	100% to zones with decreased load payments
Benefit/Cost Test	Regional Project	Energy Benefit: 70% change in production costs + 30% change in net load payments	TBD
		Capacity Benefit: 70% change in capacity costs + 30% change in net capacity payments	TBD
	Lower Voltage Project	Energy Benefit: 70% change in production costs + 30% change in net load payments (only zones with decrease in net load payments)	TBD
		Capacity Benefit: 70% change in capacity costs + 30% change in net capacity payments (only zones with decrease in net capacity payments)	TBD

\*Includes facilities necessary to support regional projects

Highlighted blocks are differences

# Generation Modeling

- Generation model includes all existing in-service generation plus actively queued generation with an executed ISA less planned generator deactivations.
- Installed Reserve Margin must be met for all study years.
  - If existing generation and future generation (executed ISA) does not provide enough to meet reserve margin than additional generation will be added to model.
  - Additional generation must be added or results will be skewed by high prices for shortages which are not expected. Simulation will go in penalty. RPM market should prevent shortages.
- Additional generation will be added in proportion to the regional location and generation type of active generation projects **without** signed ISAs through Generation Interconnection Queue.
  - Market provides signals of area and fuel type of future generation
  - Generation is added to existing units

## Market Efficiency benefit determination

- Base and upgrade cases will utilize exact same input assumptions including generation profile, emission prices, fuel prices, load, and demand response.
- System topology will be the only difference between base and upgrade cases.
  - Upgrade case will include topology with proposed enhancement.
- Benefit is valuing the change in production costs and net load payments between base and upgrade cases as impacted by proposed enhancement only and is not used to value future generation



Market Efficiency Lower Voltage Facility Cost Allocation example

Project Upgrade Cost= \$5 Million

	Net Load Payment Before Upgrade (\$millions)	Net Load Payment After Upgrade (\$millions)	Delta in Net Load Payment (\$ millions)	% of Net Load Payment Reduction	Cost (\$millions)
Zone 1	10	8	-2	11.76%	\$0.59
Zone 2	12	4	-8	47.06%	\$2.35
Zone 3	14	16	2	0%	\$0
Zone 4	5	8	3	0%	\$0
Zone 5	13	12	-1	5.88%	\$0.29
Zone 6	8	14	6	0 %	\$0
Zone 7	11	10	-1	5.88%	\$0.29
Zone 8	14	9	-5	29.41%	\$1.47
			<b>Total</b>	<b>100%</b>	<b>\$5.00</b>

\*Net Load Payment equals Gross Load Payment minus FTR Credits derived from the Net Present Value for 15 years of project