

Baseline Reliability Project Cost Allocation

- **Baseline Reliability Projects**
 - Regional and Necessary Lower Voltage Facilities
 - Lower Voltage Facilities (i.e. below 500 kV) greater than \$5 million
 - Lower Voltage Facilities less than \$5 million
- **Baseline Market Efficiency Projects**
 - Regional and Necessary Lower Voltage Facilities
 - Lower Voltage Facilities
- **Network Upgrade Projects associated with interconnection projects**
- **Today's discussion will cover Baseline Projects**

- Regional Facilities – Any 500 kV and above facility
- Necessary Lower Voltage Facilities – lower voltage facilities that are necessary as a result of the Regional Facility
 - A common example would be a 230 kV breaker at a station that needs to be upgraded because it is over-dutied due to the introduction of a new Regional Facility

- Determined on a region-wide basis
- Based on Load Ratio Share of zonal peak load and peak load of merchant transmission customers with firm withdrawal rights for the previous 12 months ending in October
- Updated annually

Transmission Zone	2010 Peak Load (MW)	Allocation (%)
AEC	2,936.30	2.09%
AEP	23,492.30	16.70%
APS	8,479.60	6.03%
BGE	6,923.90	4.92%
ComEd	21,914.50	15.58%
Dayton	3,397.80	2.41%
DL	2,888.70	2.05%
DPL	4,055.10	2.88%
Dominion	19,140.00	13.61%

Transmission Zone	2010 Peak Load (MW)	Allocation (%)
JCPL	6,420.10	4.56%
ME	2,940.30	2.09%
NEPTUNE*	682.7	0.49%
PECO	8,865.00	6.30%
PENELEC	2,970.40	2.11%
PEPCO	6,654.20	4.73%
PPL	7,411.00	5.27%
PSEG	10,761.40	7.65%
RECO	430.4	0.31%
ECP**	306.35	0.22%

*Neptune Regional Transmission System, LLC

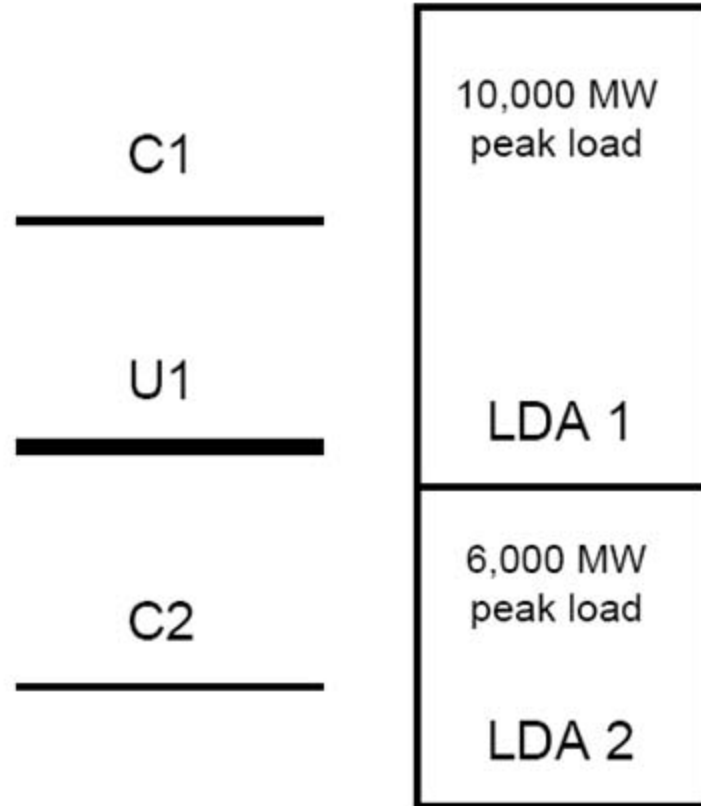
**East Coast Power, LLC

- Lower Voltage Facilities that are expected to cost less than \$5 million are allocated to the zone they are located in
- Lower Voltage Facilities that are expected to equal or cost more than \$5 million are allocated using a Distribution Factor (d-fax) methodology based on the violation
- Cost allocations for Lower Voltage Facilities are established once at the time the upgrades are approved by the PJM Board of Managers
 - They are not updated annually like the allocations for regional facilities

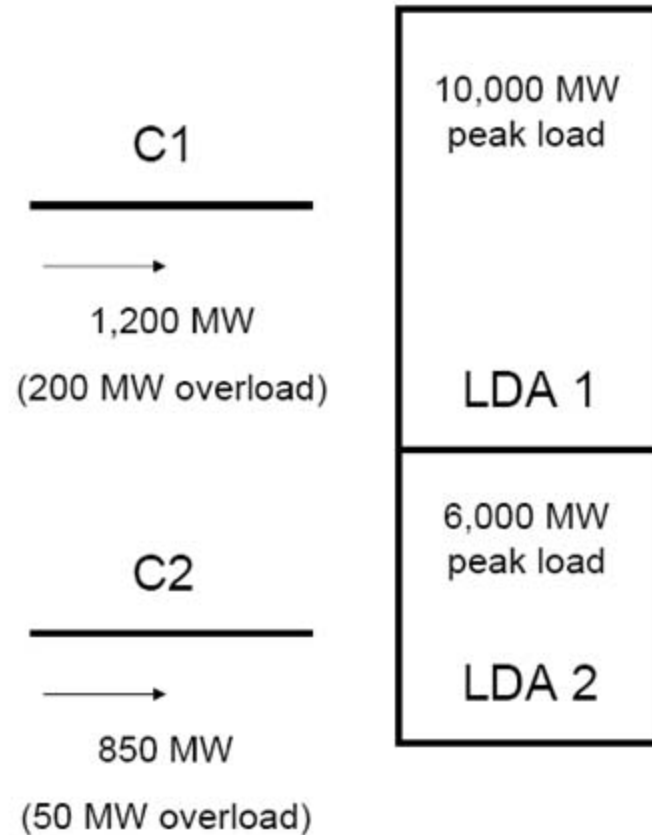
- Distribution Factor (d-fax) methodology takes into account the contributions of Load to the reliability violations driving the need for the upgrade
 - d-fax is calculated with respect to the overloaded flowgate (monitored element and contingency pair) driving the need for the upgrade
 - If a single upgrade is resolving multiple criteria violations the allocations are done proportionately for each violation being resolved
 - d-fax is calculated without the upgrade included
 - d-fax is calculated from all generation to aggregate load in a particular zone
 - Generation participation in the d-fax calculation is based on the CETO for the area

- Merchant Transmission with Firm Withdrawal Rights are treated like a zone
- d-fax threshold is 0.001
 - d-fax less than 0.001 is set to zero

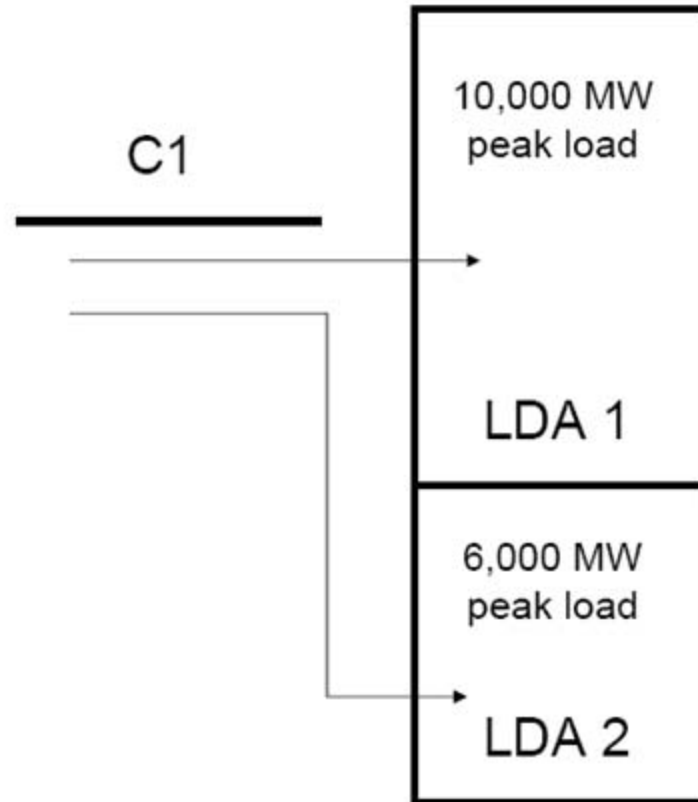
- 2 LDAs
 - LDA 1 has a peak load of 10,000 MW
 - LDA 2 has a peak load of 6,000 MW
- 2 Constraints Under Contingency Conditions
 - C1 has an emergency rating of 1,000 MW
 - C2 has an emergency rating of 800 MW
- 1 Upgrade (U1) Resolves Both Criteria Violations



- 2 Criteria Violations
 - For the first criteria violation, C1 has a post-contingency flow of 1,200 MW
 - For the second criteria violation, C2 has a post-contingency flow of 850 MW

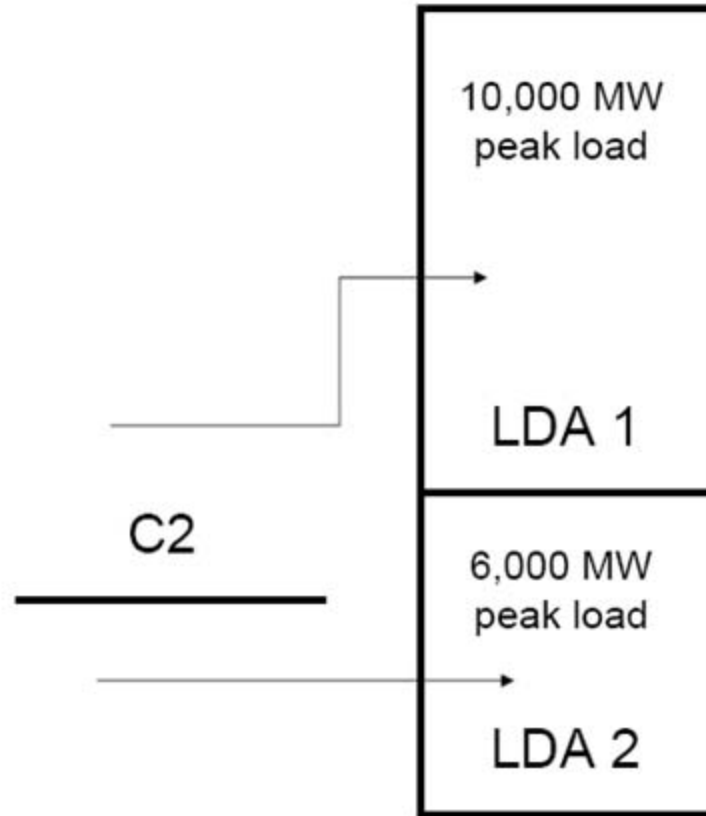


- DFAX
 - LDA 1 has a 10% DFAX on constrained facility C1
 - LDA 2 has a 5% DFAX on constrained facility C1



- DFAX

- LDA 1 has a 5% DFAX on constrained facility C2
- LDA 2 has a 20% DFAX on constrained facility C2



		LDA 1	LDA 2	Total
1 Peak Load	From RTEP Data	10,000	6,000	
2 Constraint C1				
3 DFAX	From DFAX Analysis	0.10	0.05	
4 MW Impact	Line 1 * Line 3	1000	300	1300
5 Overload on C1	From RTEP Analysis			200
6 Contribution to Overload on C1	Line 5 Total * (Line 4 / Line 4 Total)	153.8	46.2	200
7 Constraint C2				
8 DFAX	From DFAX Analysis	0.05	0.20	
9 MW Impact	Line 1 * Line 8	500	1200	1700
10 Overload on C2	From RTEP Analysis			50
11 Contribution to Overload on C2	Line 10 Total * (Line 9 / Line 9 Total)	14.7	35.3	50
12 Total of MW Overloads	Line 5 + Line 10			250
13 Total of MW Contributions to Overloads	Line 6 + Line 11	168.6	81.4	250
14 Allocation	Line 13 / Line 12 Total	0.67	0.33	

Market Efficiency Cost Allocation

Market Efficiency Cost allocation divided into two categories.

- Regional Facilities and Necessary Lower Voltage Facilities
 - 500 KV and above
 - Below 500 KV facilities that are necessary as a result of higher voltage regional facility
 - Allocation Method same as Reliability Facilities
 - Load Ratio Share

- Lower Voltage Facilities
 - Below 500 KV that are not necessary as a result of higher voltage regional facility
 - Allocation method determined from zones who benefit from project through decreases in net load payments

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
			Total	100%	\$5.00

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

- Paragraph 558 - TP must have in its OATT a common method, or set of methods, for allocating the costs of new transmission facilities selected in the regional transmission plan for purposes of cost allocation that is consistent with the six regional cost allocation principles adopted in the Final Rule

- Paragraph 578 - TP must have in its OATT a common method, or set of methods, for allocating the costs of new interregional transmission facilities among the beneficiaries of the transmission facility in the two neighboring transmission planning regions in which the transmission facility is located.

- The regional and interregional cost allocation methods must comply with the following six principles: (consistent with the cost causation principle (at P 749).)
 - cost must be allocated commensurate with estimated benefits
 - no benefits, no involuntary cost allocation
 - no costs allocated outside a transmission planning region unless the other region agrees
 - a benefit to cost ratio threshold not required; however, if used, it must not exceed 1.25 to 1 unless justified and accepted by the Commission
 - the cost allocation method(s) for determining benefits and identifying beneficiaries must be transparent
 - a planning region may use different cost allocation methods for different types of transmission facilities in the regional plan.

- Paragraph 607 - Each TP must make an individual compliance filing that includes its own proposed method or set of methods of allocating costs that explains how TP believes its method or methods satisfy the cost allocation principles and is appropriate for its region or pair of regions.