

SPP Base Plan Cost Allocation Proposed Revisions to Allocation of DNR Request Related Upgrade Costs

On its October 18th conference call, the CAWG members discussed three options to address the concerns raised at the October 12th meeting regarding upgrades for designated network resource requests in the base plan. Generally, these options address only the DNR request portions of the base plan proposal. The remaining elements of the base plan cost allocation proposal remain the same.¹

The options discussed include:

- Option 1 – Requestor Commitment Approach
- Option 2 – Requestor’s Benefits Test
- Option 3 – Focus on recovery of transmission costs
- Option 4 – No changes to current Base Plan proposal

Each is summarized briefly below.

Option 1 – Requestor Commitment Approach

This proposal assigns costs to the transmission customer making the DNR request on a sliding scale over a five-year period. The key points of the proposal are:

1. New DNR must qualify by the following:
 - 5 year commitment or longer, and
 - DNR will not exceed 125% reserve margin for the LSE
 - Or DNR qualifies under waiver.
 - Amount exceeding \$180,000/MW is either paid for by the requestor LSE or is not assessed if a waiver is obtained
2. LSE must pay 10% of the costs that would be included in the current base plan. This amount is reduced by 2% for every year that the DNR request commitment period exceeds the 5 year minimum commitment, i.e. if there is a 10 year commitment then this amount is reduced to zero.

¹ The cost allocation of all other base plan upgrades (i.e. non-DNR request related) remains as proposed in the October 5th proposal. Similarly, the regional allocation factor, eligibility criteria and waivers for DNR requests remain the same.

The calculation for allocating costs to the requestor under Option 1 is illustrated in the following equation. The DNR pays an amount equal to (X% * upgrade costs), where Upgrade costs are \$180K/MW or less.

$$X\% = A\% - (B*N)\%$$
$$N = \text{contract term} - 5 \text{ years}$$

X cannot be less than 0

Initially assume A = 10% and B = 2, or
 $X\% = 10\% - (2*N)\%$

Examples of this proposal are shown in Attachment 1.

Option 2 – Requestor Benefits Test

This approach assigns costs to the transmission customer making the DNR request by comparing its pro-rata share of benefits to its load ratio share within a zone. Under this model, DNR related upgrade costs would be allocated as follows:

1. Assign 33% of upgrade costs to regional rate
2. Determine zone(s) that benefit from the upgrade as per the original proposal using SPP incremental MW-mile and assign remaining 67% of those costs to these zone(s).
3. For the zone where the LSE requesting the DNR upgrade is located, compare the percentage of benefits measured² for the LSE to the LSE's load ratio share in the zone. If the percentage of measured benefits exceeds its load ratio share, then assign a significant portion of the zone's allocated costs directly to the requestor in relation to the margin the benefits exceed the load ratio share. For example, if the LSE is 5% of the load in a zone, but its measured benefits from the upgrade are 35%, then assign nearly 30% of the zonal costs³ directly to the requestor. The specific proposal is to assign 90% of this difference i.e. 90% of the 30% difference in this example or 27%.
4. Similarly, if the upgrade costs exceed the safe harbor limit (i.e. \$180,000/MW), assign the excess costs to the requestor.⁴

Example calculations are in Attachment 1.

² The measured benefits within the zone will be calculated using the same SPP incremental MW-mile approach used to measure the zonal benefits in Step 2.

³ These zonal costs are the portion of the 67% of the upgrade costs assigned to the requestor's zone. They are not the total costs allocated to the zones.

⁴ The CAWG is still debating whether or not this additional assignment is appropriate given the direct allocation under Step 3.

Option 3 - Focus on recovery of transmission costs

A third option is to focus not on cost allocation but on cost recovery. Under this option, each state will consider whether it is appropriate to provide additional regulatory assurance for the recovery of costs incurred through the cost-allocation rules that are adopted by the Federal Energy Regulatory Commission for new transmission facilities in the Southwest Power Pool. Each state will consider the matter in the context of its procedural and substantive requirements.

Option 4 – No Changes to Current Base Plan Proposal

A fourth option is to simply keep the current October 5th Base Plan Proposal for allocating these DNR related upgrade costs. Under this approach, there is no direct assignment to the requestor as considered in Options 1 and 2. The costs allocated to the zones are allocated to the LSEs within the zones on a load ratio share basis.

Attachment 1

Examples

Option 1 Requestor Commitment Approach Examples

The calculation for allocating costs to the requestor under Option 1 is illustrated in the following examples. The DNR pays amount equal to (X% * upgrade costs), where Upgrade costs are \$180K/MW or less

$$X\% = A\% - (B*N)\%$$

$$N = \text{contract term} - 5 \text{ years}$$

X cannot be less than 0

Initially assume A = 10% and B = 2, or

$$X\% = 10\% - (2*N)\%$$

Examples (assume that the LSE requestor meets the 125% reserve margin requirement in all of the examples below.)

Example 1

DNR upgrade costs = \$220,000/MW

Commitment period = 8 years

No waiver granted for costs that exceed safe harbor limit of \$180K/MW

$$\begin{aligned} \text{LSE cost assignment} &= (\$220,000 - \$180,000) + (\$180,000 * (10\% - (2\% * (10 - 8)))) \\ &= \$40,000 + (\$180,000 * 0.04) \\ &= \$47,200/\text{MW} \end{aligned}$$

In this example, \$40,000/MW would be assigned to the requestor because the cost exceeds the safe harbor amount, and \$7,200/MW would be assigned to the requestor to insure that it pays a portion of the cost of the upgrade.

Example 2

DNR upgrade costs = \$180,000/MW

Commitment period = 8 years

$$\begin{aligned} \text{LSE cost assignment} &= (\$180,000 * (10\% - (2\% * (10 - 8)))) \\ &= (\$180,000 * 0.04) \\ &= \$7,200/\text{MW} \end{aligned}$$

Example 3

DNR upgrade costs = \$140,000/MW

Commitment period = 5 years

$$\begin{aligned} \text{LSE cost assignment} &= (\$140,000 * (10\% - (2\% * (10 - 5)))) \\ &= (\$140,000 * 0.10) \\ &= \$14,000/\text{MW} \end{aligned}$$

Example 4

DNR upgrade costs = \$140,000/MW

Commitment period = 8 years

$$\begin{aligned} \text{LSE cost assignment} &= (\$140,000 * (10\% - (2\% * (10 - 8)))) \\ &= (\$140,000 * 0.04) \\ &= \$5,600/\text{MW} \end{aligned}$$

Suppose we look at other values for A and B

A = 10%, B = 2%, Examples already shown, Values in \$/MW				
	Example 1	Example 2	Example 3	Example 4
DNR Upgrade Costs	\$220,000	\$180,000	\$140,000	\$140,000
DNR Direct Assignment	\$40,000	\$0	\$0	\$0
Initial DNR Base Plan Inclusion	\$180,000	\$180,000	\$140,000	\$140,000
Contract Term	8	8	5	8
N	3	3	0	3
(A-B*N)%	4%	4%	10%	4%
LSE Contribution	\$7,200	\$7,200	\$14,000	\$5,600
Total DNR Assignment	\$47,200	\$7,200	\$14,000	\$5,600
Total Base Plan Inclusion	\$172,800	\$172,800	\$126,000	\$134,400

A = 20%, B = 2%, Values in \$/MW				
	Example 1	Example 2	Example 3	Example 4
DNR Upgrade Costs	\$220,000	\$180,000	\$140,000	\$140,000
DNR Direct Assignment	\$40,000	\$0	\$0	\$0
Initial DNR Base Plan Inclusion	\$180,000	\$180,000	\$140,000	\$140,000
Contract Term	8	8	5	8
N	3	3	0	3
(A-B*N)%	14%	14%	20%	14%
LSE Contribution	\$25,200	\$25,200	\$28,000	\$19,600
Total DNR Assignment	\$65,200	\$25,200	\$28,000	\$19,600
Total Base Plan Inclusion	\$154,800	\$154,800	\$112,000	\$120,400

Option 2 – Requestor Benefit’s Test Examples

Summary of Calculations used in the Following Examples

The tables below provide several examples of how to calculate the intra-zonal cost allocations as proposed using Option 2. The calculations are explained in Example 1 and these same calculations are carried through the remaining examples.

Example 1a – Requestor is small LSE within larger load zone

Example 1.a Upgrade in Load Zone of Requestor/Small			
Unit Cost	\$140,000/MW	Limit \$/MW	\$180,000/MW
DNR	100 MW		100 MW
Total Cost	\$14,000,000	Limit \$	\$18,000,000
Eligible Cost	\$14,000,000		
Above Limit Costs	\$0		

← Difference calculated if total cost exceeds safe harbor limit

Allocation of Cost			
1) Region-Wide Rate			
	33%	\$4,620,000	
Remaining Costs		\$9,380,000	
2) Zonal Allocations			
Load Zone	65%	\$6,097,000	
Zone X	25%	\$2,345,000	
Zone Y	10%	\$938,000	
Total		\$9,380,000	

← The % figures are the results of the SPP MW-mile analysis. In this example, the analysis showed these three zones benefited from the proposed upgrade. The 67% of remaining costs are assigned to each zone using these % figures.

← For the requesting LSE, calculate the difference between its measured benefit (MWM Share) and its Load Ratio Share (LR Share). Assign 90% of that difference to the Requestor.

3) Costs Assigned to LSE Requestor						
	LR Share	MWM Share	MWM Share -LR Share	90% multiplier	%Assigned to Requestor	
Requestor	5%	15%	10%	0.9	9.0%	
LSE X	8%	5%				
LSE Y	87%	80%				

Load Zone Costs Assigned Costs to Requestor			
		9.0%	\$6,097,000
Above Limit Costs Assigned to Requestor			\$548,730
			\$0

← Multiply the total costs assigned to the zone times the % that are to be allocated to the requestor.

4) Load Zone Costs Allocated to LSEs				
	Assigned	LR Share	Total	
Requestor	\$548,730	\$277,414	\$826,144	13.55%
LSE X	0	\$443,862	\$443,862	7.28%
LSE Y	0	\$4,826,995	\$4,826,995	79.17%
Total	\$548,730	\$5,548,270	\$6,097,000	

↑ Allocate the residual costs assigned to the zone to all LSEs in the zone, including the requestor, on a load ratio share basis.

Example 2 – The LSE requesting the DNR is a Large load within the Zone

Example 2.a Upgrade in Load Zone of Requestor/Large						
Unit Cost	\$140,000/MW	Limit \$/MW		\$180,000/MW		
DNR	500 MW			500 MW		
Total Cost	\$70,000,000	Limit \$		\$90,000,000		
Eligible Cost	\$70,000,000					
Above Limit Costs		\$0				
Allocation of Cost						
1) Region-Wide Rate						
	33%	\$23,100,000				
	Remaining Costs	\$46,900,000				
2) Zonal Allocations						
Load Zone	65%	\$30,485,000				
Zone X	25%	\$11,725,000				
Zone Y	10%	\$4,690,000				
Total		\$46,900,000				
3) Costs Assigned to LSE Requestor						
	LR Share	MWM Share	MWM Share -LR Share	90% multiplier	%Assigned to Requestor	
Requestor	80%	90%	10%	0.9	9.0%	
LSE X	8%	5%	Above calculations are made only for the LSE			
LSE Y	12%	5%	Requesting DNR			
Load Zone Costs Assigned Costs to Requestor						
			9.0%	\$30,485,000		\$2,743,650
Above Limit Costs Assigned to Requestor						
						\$0
4) Load Zone Costs Allocated to LSEs						
	Assigned	LR Share	Total			
Requestor	\$2,743,650	\$22,193,080	\$24,936,730		81.80%	
LSE X	0	\$2,219,308	\$2,219,308		7.28%	
LSE Y	0	\$3,328,962	\$3,328,962		10.92%	
Total	\$2,743,650	\$27,741,350	\$30,485,000			

Example 3a – DNR related Upgrades are required in zones outside the Zone the Requestor is Located and the Requestor is a small LSE.

Example 3.a Upgrade Not in Load Zone of Requestor/Small					
Unit Cost	\$200,000/MW	Limit \$/MW	\$180,000/MW		
DNR	100 MW		100 MW		
Total Cost	\$20,000,000	Limit \$	\$18,000,000		
Eligible Cost	\$18,000,000				
Above Limit Costs	\$2,000,000				
Allocation of Cost					
1) Region-Wide Rate					
	33%	\$5,940,000			
	Remaining Costs	\$12,060,000			
2) Zonal Allocations					
Load Zone	35%	\$4,221,000			
Zone X	35%	\$4,221,000			
Zone Y	30%	\$3,618,000			
Total		\$12,060,000			
3) Costs Assigned to LSE Requestor					
	LR Share	MWM Share	MWM Share-LR Share	90% Multplier	% Assigned
Requestor	5%	50%	45%	0.9	40.5%
LSE X	8%	5%	Above calculations are made only for the LSE		
LSE Y	87%	45%	Requesting DNR		
Load Zone Costs Assigned Costs to Requestor					
			40.5%	\$4,221,000	\$1,709,505
Above Limit Costs Assigned to Requestor					
					\$2,000,000
4) Load Zone Costs Allocated to LSEs					
	Assigned	LR Share	Total		
Requestor	\$3,709,505	\$125,575	\$3,835,080	61.65%	
LSE X	0	\$200,920	\$200,920	3.23%	
LSE Y	0	\$2,185,001	\$2,185,001	35.12%	
Total	\$3,709,505	\$2,511,495	\$6,221,000		

In this example, the upgrade costs exceed the safe harbor limit by \$2M. These costs are directly allocated to the requestor in the total figures below. The appropriateness of this additional allocation is currently under discussion by the CAWG.

Example 3b – DNR related Upgrades are required in zones outside the Zone the Requestor is Located and the Requestor is a large LSE.

Example 3.b Upgrade Not in Load Zone of Requestor/Large						
Unit Cost	\$200,000/MW		Limit \$/MW		\$180,000/MW	
DNR	500 MW				500 MW	
Total Cost	\$100,000,000		Limit \$		\$90,000,000	
Eligible Cost		\$90,000,000				
Above Limit Costs		\$10,000,000				
Allocation of Cost						
1) Region-Wide Rate						
	33%	\$29,700,000				
	Remaining Costs	\$60,300,000				
2) Zonal Allocations						
Load Zone	35%	\$21,105,000				
Zone X	35%	\$21,105,000				
Zone Y	30%	\$18,090,000				
Total		\$60,300,000				
3) Costs Assigned to LSE Requestor						
	LR Share	MWM Share	MWM Share-LR Share	90% Multiplier	% Assigned	
Requestor	80%	100%	20%	0.9	18.0%	
LSE X	8%	0%	Above calculations are made only for the LSE			
LSE Y	12%	0%	Requesting DNR			
Load Zone Costs Assigned Costs to Requestor						
			18.0%	\$21,105,000	\$3,798,900	
Above Limit Costs Assigned to Requestor						
					\$10,000,000	
4) Load Zone Costs Allocated to LSEs						
	Assigned	LR Share	Total			
Requestor	\$13,798,900	\$13,844,880	\$27,643,780	88.87%		
LSE X	0	\$1,384,488	\$1,384,488	4.45%		
LSE Y	0	\$2,076,732	\$2,076,732	6.68%		
Total	\$13,798,900	\$17,306,100	\$31,105,000			

In this example, the upgrade costs exceed the safe harbor limit by \$10M. These costs are directly allocated to the requestor in the total figures below. The appropriateness of this additional allocation is currently under discussion by the CAWG.