

## TRANSMISSION EXPANSION COST ALLOCATION PRINCIPLES

The Cost Allocation Working Group has developed the following draft principles to address the cost allocation of SPP transmission system expansion costs. The principles seek to address such goals as equity among transmission customers, economic efficiency, and enhancement of competition in wholesale generation markets. However, the working group recognizes that there are trade offs among these various goals that must be resolved as the principles and cost allocation protocols are more fully developed.

**Principle 1 (Equity): The cost allocation policy should reflect the classic principles of “cost causers should be cost bearers” and “he who benefits should pay.”**

This beneficiaries pay approach to cost allocation requires a determination of the benefits accruing to each transmission customer from the transmission expansion. When the transmission expansion results from a request or need for transmission service, the transmission customer receiving transmission service is both the cost causer and the beneficiary. This beneficiaries pay approach is summarized in the above principle on equity.<sup>1</sup> The difficult part of the beneficiaries pay approach is in matching costs caused with benefits received. Typically, flow-based methods are used to match the costs to the beneficiaries of a transmission expansion. Flow-based methods take into account flows onto all transmission within the SPP footprint and are not limited to allocating costs based on a geographically defined pricing zone.

**Principle 2 (Equity): The cost allocation of a transmission expansion to meet a request or need for transmission service should not result in the cost causers being required to pay for more than is received in transmission benefits.**

Transmission expansion can be lumpy. Thus, an upgrade resulting from a request or need for transmission service may result in more transmission capability being made available than what was requested or needed. In these cases, Principle 2 states that those receiving transmission service from the expansion should not be required to pay for the excess for which they received

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<sup>1</sup> This principle was adopted by the Organization of Midwest ISO States (OMS) for pricing of transmission expansion.

no transmission benefits. However, it is important to keep in mind that requests or needs can incorporate load growth that could provide future transmission benefits. By implication, the excess capacity created is available to anyone and so should be paid for by everyone until absorbed by load.

**Principle 3 (Equity): The cost allocation policy for transmission expansion, transmission access pricing and transmission service allocation (whether physical or financial) should, when combined, reflect the principle that there are no “free riders” and that similar transmission service is allocated and priced indiscriminately.**

While principle 1 and 2 deal with transmission expansion, for transmission service to be allocated and priced equitably, charges and allocation of the current transmission system should also be considered for the following reason. In essence, transmission owners have contributed the use of their transmission systems to the SPP region in order to allow wholesale transactions to take place at a single transmission rate. While the transmission owners wholesale customers will no longer be faced with multiple (“pancaked”) transmission access tariffs, transmission owners that have shared their available contributed transmission capacity with other RTO customers, will no longer receive revenues from these customers to offset their existing costs. If the charge for transmission reservations within a zone is based only on the cost of transmission facilities within the zone, those within any zone that has more reservations outside the zone than similar outside reservations within the zone, will essentially have a “free ride” on the transmission systems of other transmission owners.<sup>2</sup> While the first two principles assure that transmission expansion costs are borne by those receiving the benefits, this principle is to assure that the costs and access of the existing system is equally borne by those receiving the benefits.

**Principle 4 (Efficiency): The cost allocation policy should send appropriate signals to generators to efficiently locate their plants on the grid.**

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<sup>2</sup> The problem with zonal pricing is that it makes no attempt at determining the impact of loop flows onto other transmission owner’s systems and therefore violates the first principle.

While Principle 1 addresses what rate analysts call “equity,” when talking about new transmission, the beneficiaries pay approach also addresses a second principle.<sup>3</sup> Specifically, if the need for transmission service causes transmission to be built, and the policy is to allocate that incremental cost to the transmission customer wanting transmission service from generation resources located throughout the SPP footprint, then transmission upgrades required for generation source located more distant from the transmission customer’s load destination will generally require the transmission customer to pay a higher cost than it would for generation located closer to its load. Thus, in a beneficiaries pay approach to cost allocation, transmission customers receive appropriate price signals regarding where to locate supply resources that they wish to designate as network resources.<sup>4</sup>

**Principle 5 (Competitive Supply): The cost allocation policy should encourage competitive supply of electricity in wholesale markets for generation.**

There is a potential downside to the beneficiaries pay approach to allocating the cost of new transmission. Cost allocations that incorporate distance or location tend to give generators located close to load centers an advantage in the competitive supply of load. Thus, for example, municipal utilities that acquire a significant amount of power in the wholesale markets, would likely see their choices for competitive supply become more limited by a beneficiaries pay approach to cost allocation.<sup>5</sup> When distinct suppliers of competitive generation tend to be concentrated in separate locations, then the cost allocation policy needs to incorporate this competitive supply principle along with the principles of equity and efficiency.

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<sup>3</sup> This principle was also adopted by the OMS for pricing of transmission expansion.

<sup>4</sup> Designating network resources is a critical component to what is called network integration transmission service.

<sup>5</sup> The elimination of pancaked transmission rates is based on this principle of encouraging competition in wholesale generation markets.

**Principle 6 (Reliability): Each transmission owner should fund, and recover the approved costs of, transmission projects to meet the SPP reliability standards, replace obsolete facilities, and meet growth in demand.**

Utilities retain their obligation to provide safe, reliable transmission service at just and reasonable rates even as their markets evolve. By implication, the SPP transmission tariff will always need a zonal or local component, but may also include a regional component in the rates.

**Principle 7 (Allocation): Transmission expansion projects resulting from the RTO's plan that are intended to provide economic benefits may be allocated to single or multiple transmission customers (and/or zones), or the entire region, based on the RTO's estimate of the distribution of benefits.**

SPP has the ability, or should develop the capability, to model the effects of a transmission upgrade, or set of upgrades, and estimate the added value to each transmission owner. One example of a benefit metric would be an increase in Available Transmission Capability. If an upgrade in one zone increases ATC in other zones, the costs should be allocated. Another metric would be a reduction in nodal prices. If an upgrade in one zone reduces nodal prices in other zones, the costs should be allocated. Another metric could be an expansion in the number of generators or amount of generation a given load could access. SPP should, in consultation with the RSC, develop protocols for cost allocation based on metrics of the distribution of benefits.

**Principle 8 (Voluntary Economic Upgrades): For a non reliability project, a transmission customer should be able to get a commitment from the RTO, as transmission service provider, to construct a requested project that does no harm to the network or otherwise have an adverse impact on regional transmission service, on the condition that the customer accept its allocated share of the costs.**

This principle opens the door to market-based solutions, i.e., merchant transmission, because projects incremental to the SPP transmission plan may be proposed and built. Yet, even if the transmission customer requests and agrees to voluntarily fund the project, it still must be integrated into the RTO transmission plan. The customer does not have an unfettered right to

whatever project it seeks. Cost allocation should take place as with other projects, by RTO determination of the distribution of benefits.

**Principle 9 (Retention of Cost Allocation Benefits): The funding party of a transmission project should retain its rights as market design evolves.**

- a. While a market-based congestion management system is not in place, the transmission customer allocated some cost of a project should be entitled to the physical rights of the increased transfer capability from the project, in proportion to the customer's assigned share of the costs.
- b. When a market-based congestion management system is implemented, existing physical rights should be equitably converted to financial transmission rights (FTRs). Subsequently, a transmission customer directly assigned the costs of a transmission expansion project should receive the FTRs created by the project. The new FTRs provided to that customer should be in proportion to the project cost responsibility assigned to that customer.