*November 10, 1999*

# Summary of Potential Benefits of a Northwest Regional Transmission Organization

## 1. General Introductory Comments:

a. The purpose of this summary is to identify areas in which benefits from forming an RTO in the Northwest might develop, not to address expectations about where those benefits would flow.

b. The people whose ideas contributed to this summary had differing views about the likelihood and magnitude of the potential benefits it describes. None of the ideas presented enjoyed unanimous support within the group. The items identified in sections 2 - 6 below reflect concepts that garnered significant acceptance or support within the work group. The items listed under "Other Points To Consider" do not reflect any particular level of consensus, but were offered by individual members of the work group as discussion points.

c. The concept of potential benefits is important. Members of the work group expressed strong views that whether the region realizes specific potential benefits, and to what extent, depends almost entirely on how the region approaches RTO development. Timing, participants, business structure, governance, physical configuration, pricing model, and functions are among numerous factors that would affect the type and extent of benefits an RTO could provide to the region.

d. Because the uncertainties described above involve fundamental policy questions, the members of the work group did not attempt to address the manner and timing of achieving the potential benefits this summary identifies. For the same reason, the work group also did not attempt to quantify any of the potential benefits. Rather, the group's objective was to identify areas in which regional participants could seek to realize benefits.

e. The descriptions of potential benefits contained in this summary do not necessarily reflect assumptions used during the IndeGO process (such as the assumption that an RTO would build all-new facilities). Rather, there are many in the region who believe that

any Northwest RTO should use existing communications and control infrastructure to keep costs down.

f. Many of the items identified as potential benefits could easily fit into more than one of the conceptual categories. We have not repeated elements to show relationships to multiple categories. Instead, we have arranged the benefits based on what seems to be their clearest primary category.

g. The work group assumed that if a Northwest RTO were formed, it would be designed to meet FERC's minimum criteria for recognition as an RTO.

h. This summary organizes the potential benefits of a Northwest RTO into five categories:

- Potential Benefits from Reduced Administrative Costs To Provide Transmission Service;
- Potential Operational Benefits (Other than those relating to congestion management);
- Potential Benefits Relating to Congestion Management;
- Potential Benefits from Avoided Costs Relating to Administering and Maintaining the Physical Transmission System; and
- Potential Benefits Relating to Market Enhancement and Increased Competition.

## 2. Potential Benefits from Reduced Administrative Costs To Provide Transmission Service:

a. Consolidation of business functions for scheduling, planning, OASIS, and general administration could allow for:

(i) Net reduction in staffing requirements related to administer schedules (accept, approve, enter into scheduling systems, etc.) and general overhead for scheduling activities and OASIS;

(ii) Net reduction in staffing requirements to plan, analyze and engineer the transmission grid;

(iii) Net reduction in staffing necessary for regulatory and permitting activities; and

(iv) Opportunity to phase out multiple control centers, which would also help save software and hardware maintenance and upgrades, associated staff training time, and other related infrastructure.

b. Combining enterprises could provide an opportunity to capture and capitalize on core competencies – take the best among the combined functions.

c. Potential to increase coordination between separate state regulatory agencies by providing a single point of focus for transmission expansion review, possibly even encouraging multi-state agreements to review and approve new transmission facilities.

**3. Potential Operational Benefits (Other than those relating to congestion management):**

a. Transmission Operations.

(i) Increased integration of operations could allow opportunity for:

- better management of parallel path flows, thereby increasing useable capacity;
- ability to develop better information about system conditions, thereby lessening the need for holding back reserve capacity; and
- ability to maintain comparable reliability more efficiently because of greater redispatch authority, more direct control, and greater depth of visibility over the grid, thereby reducing costs and lessening outage probability.

(ii) Refined Available Transmission Capacity ("ATC") calculations through:

- fewer seams;
- broader information sets;

- internalization of contract path limitations of multiple systems into physical flow limitations for a single system, thereby increasing ATC; and

- elimination of multiple system capacity cushions designed to address uncertainties in parallel flows, thereby increasing ATC.

(iii) Greater commercial and operational flexibility across the transmission system could promote improved diversity and breadth in resources to support the system; and

(iv) Greater transmission facilities outage coordination – less disruption to system operations and the marketplace.

b. Generation Operations.

(i) Removal of pancaked rates could promote more efficient dispatch of existing generation.

(ii) Greater generation outage coordination – less disruption to system operations and the marketplace.

**4. Potential Benefits Relating to Congestion Management:**

a. Congestion management could be made more efficient and effective through:

- greater integration;

- regional dispatch authority allowing for more options;

- allocation of scarce capacity on the basis of economic value, so that no economic transactions are blocked – therefore overall system operating costs are lowered; and

- lessened or eliminated need for schedule curtailments as a mechanism for congestion relief, so that less valued transactions do not displace more highly valued transactions and overall system operating costs are lowered.

b. Economic signals to the market place through congestion pricing could:

- Facilitate more appropriate price signals for dispatch of energy and capacity resources and demand-side management; and

- Facilitate more appropriate market signals for guiding investments in generation, transmission, and demand-side management.

**5. Potential Benefits from Avoided Costs Relating to Administering and Maintaining the Physical Transmission System:**

a. Consolidation of transmission system and related physical functions including control areas and OASIS nodes, which could allow net reduction in staffing required to operate and maintain the transmission grid.

b. Ability to forgo or defer construction of new transmission facilities without sacrificing service or function (because of opportunity to get more available capacity out of existing system while maintaining comparable reliability).

**6. Potential Benefits Relating to Market Enhancement and Increased Competition:**

a. More economically efficient transmission pricing.

b. Removal of pancaked transmission access fees.

c. An environment with improved, dependable, and public information system (including price and other market signals and information), a common decision sphere, and broader participants (and suppliers) set for addressing pressures for transmission expansion through a market place model.

d. Greater ease and certainty of conducting business could encourage more participants to enter the market.

e. Increased market participation and removal of pancaked transmission access fees could:

- increase competition in the power market;

- encourage greater breadth of transactions; and

- increase pressure on all suppliers to operate more efficiently.

f. One-stop shopping for transmission (single OASIS, single tariff, single set of uniform business practices, single bill).

g. More complete information and single contact point for arranging transactions across the entire grid could enable the development of new types of transactions with shorter lead-times.

h. Could facilitate the development of deeper, more competitive ancillary services market.

i. Could provide the means for all participants to reach trading hubs on known price and terms, which could facilitate:

- an indexed energy price reference at and between hubs for all market participants;
- the option for any market participant to take physical delivery;
- development of a deep, liquid cash market for energy;
- development of derivative (financial) markets;
- opportunity to develop a liquid secondary market in tradable transmission rights, which could free up capacity that some parties might otherwise retain to be sure to be able to serve peak demand during limited periods; and
- expanded market for MegaWatts using additional capacity made available through secondary market in transmission rights.

j. Could promote better alignment of incentives so that projects providing system-wide benefits would proceed because location of project won't affect RTO's ability to recover costs.

k. Greater ability to net schedules on a larger scale could allow more transactions (increased commerce) without increasing throughput.

l. Increased potential for end-users to see appropriate price signals to guide their energy use and future energy choice decisions.

## 7. Other Points To Consider:

a. To accurately assess overall effects of creating an RTO, it is important to distinguish between short-run and long-run effects, and ask: What will be an RTO's effect on shaping the future?

b. We cannot evaluate the potential benefits of an RTO assuming all things will remain as they are now. The load/resource balance in the Northwest is getting tighter and tighter; the number and complexity of transactions the system is being asked to handle are increasing; reliability management is shifting from a voluntary system to mandated standards with enforcement sanctions. This raises the question of how the region wants to respond to these issues going forward. What forces should determine what new generation and transmission resources get built?

c. Similarly, in looking at the impact on generation, the inquiry should not be limited to considering how an RTO would affect the dispatch of current generation. The more important question is probably: How will an RTO's presence shape investment in future generation?

d. Some suggest that we do not need to create an RTO with a "big bang" approach. Rather, we can design an RTO to reflect what fits and is most useful now, encompassing those participants for whom the best time to join is now. This could help avoid a lot of up-front costs and allow accommodation of individual circumstances of each Northwest transmission owner. Other entities can join over time as it becomes a positive business decision for them (providing opportunities for avoided costs, not just incurred costs). That would also give the RTO incentives to operate efficiently to make itself an attractive option for non-participating transmission owners.

e. It is possible that even if some BPA full requirements customers don't see immediate, direct benefits, they could benefit indirectly to the extent BPA experiences costs savings that it can flow through to its requirements customers.

f. If having an RTO could result in avoiding the need to construct just 100 miles of transmission lines, the cost savings would easily offset any costs incurred to develop and run the RTO.

g. Similarly, if having an RTO fosters greater efficiency and flexibility in dispatching available generation, the total generation resources needed to meet demand could be reduced. If this resulted in avoiding the need to construct one 300-MegaWatt combined cycle generator, the cost savings also could easily offset RTO costs.

h. If the formation of an RTO allowed the region to increase its available transmission capacity (from existing facilities) by, for example, 1% or 5%, what would the economic impact of that increase be?

i. The current discussions on forming a Northwest RTO are not wedded in any way to the IndeGO proposal. However certain aspects of the IndeGO proposal that were hammered out after lengthy discussions and evaluation of alternatives, specifically the pricing and congestion management proposals, are beneficial for any RTO proposal and should not be discarded. The key aspects of this are: (a) recovery of revenues for existing facilities from annual dues rather than transaction charges; (b) transaction charges that recover only transaction-specific incremental costs including congestion management costs and losses; (c) congestion management by purchase of reverse schedules, by the RTO and by the market; (d) all transactions are accepted; marginal congestion costs per MW charged to all causal transactions; (e) financial rights across a segment protect the holder from paying congestion charges for that segment.

   This solution, although labeled the IndeGO solution, is in no way limited in applicability to the abandoned IndeGO proposal. Rather it is a natural and robust solution to the problems of pricing and congestion management in an RTO, that serves the needs of optimizing the productivity of the transmission system and providing economically efficient price signals to users of the system for market transactions as well as for consumption and dispatch, for investment in new central and distributed generation and DSM, and for investment in new transmission to alleviate congestion. Because it is a natural and robust solution it should be the starting point for pricing and congestion management in discussions about a Northwest RTO.