

Commercial Infrastructure Financial Process (CIFP) Summary

August 2007



Commercial Infrastructure Expansion Policy Update

The Commercial Infrastructure Expansion Policy proposal has 2 major elements that we discussed at the last meeting. The TIPSC unanimously concurred with the recommendation summarized below:

1. When establishing the revenue recovery threshold for charging embedded cost rates for use of new commercial facilities, we recommend that the present value of reliability-related benefits, revenues from expected future uses, and other economic benefits be included as an offset to project costs.
2. If the Net Present Value of project costs, revenues and benefits is positive, we recommend that BPA proceed with obtaining financing and construct the facilities. This does not preclude charging an incremental cost rate to achieve a positive NPV of costs and revenues for the project.

Since the last TIPSC meeting, BPA staff and customers have developed a draft set of recommended metrics for how we would go about quantifying the future revenues and benefits. We still need to obtain BPA management approval of these metrics and we need to have some follow-up discussions with customers. The following tables identify our draft recommended data sources and approach.



Commercial Infrastructure Expansion Policy Update (Cont.)

Reliability-Related Benefits Elements:

Benefit Type	Guidelines and Data Sources	Quantification	Risk Adjustment
Use of facilities to support NI load growth, existing resources	Regional Reliability guidelines / BPA Transmission Planning, 20 year future look	PV of future revenues from NI load growth that has flows on new facilities	Standard Transmission Services Discount rate (9%)
Planned Reliability projects deferred or eliminated as a result of new commercial facilities	Same as above	For projects deferred to a future date, the PV of deferred project carrying costs For eliminated projects, the PV of eliminated project costs	Standard Transmission Services Discount rate (9%)
Increased Operational Flexibility and increased ability to take outages on other facilities		This benefit will be qualitatively described, specific to the facilities	



Commercial Infrastructure Expansion Policy Update (Cont.)

Expected Future Uses Elements:

Benefit Type	Guidelines and Data Sources	Quantification	Risk Adjustment
Signed interconnection agreement, no application for transmission service	BPA Generation Interconnection queue and transmission service applications	PV of PTP revenues assuming the generating facility takes service equivalent to 50% of the facilities rated capacity	Power Services Standard Discount rate (13%)
Renewable Portfolio Standards (RPS) and utility resource plans	WECC TEPCO database for likely future resource scenarios to meet RPS and other future resource requirements WECC economic transmission expansion studies for PROMOD IV deliverability assessment without/with new facilities	Same as above	Same as above



Commercial Infrastructure Expansion Policy Update (Cont.)

Other Regional Economic Benefits Elements:

Benefit Type	Guidelines and Data Sources	Quantification	Risk Adjustment
Reduced RAS arming and tripping	<p>Planning and Operations assessment of likely reductions in arming and tripping events</p> <p>Customer (WECC possibly) supplied arming and tripping costs per event</p>	<p>PV of plant costs difference for arming and tripping with/without new facilities, including replacement power for tripped facilities</p>	<p>Standard Power discount rate (13%)</p>
Reduced Outage Impacts	<p>Estimated outage difference / historic curtailment frequency and duration</p>	<p>Historic market price difference for resources redispatched across the outage</p>	<p>Same as above</p>
Access to more Efficient Wind Resources	<p>WECC TEPCO for resource location. Northwest Wind Integration Action Plan for delivered power cost reduction for enabled resources with higher plant capacity factor</p>	<p>Increase in expected capacity factor \times rated capacity \times reduced power costs for enabled projects (initial subscription or expected future use)</p>	<p>Same as above</p>
Loss Reduction	<p>Loss difference from planning studies</p>	<p>PV of avoided power costs for reduced losses (20 years)</p>	<p>Same as above</p>



Proposal for a New Approach for Allocating Transmission Expansion Costs and Financing Commercial Infrastructure

EXECUTIVE SUMMARY

BPA has not constructed any major transmission facilities for economic or commercial needs since BPA adopted FERC's open access tariff in 1996. BPA has made some progress toward clearing our queue for transmission service by increasing Available Transfer Capability (ATC) through modification of base case assumptions and calculation methodologies, and by offering the resulting additional firm service, but BPA has now largely exhausted ATC. Large amounts of capacity are encumbered by those already in the queue¹ and BPA may need to reconsider processes for offering service, performing studies for new facilities based on commitments to take firm service, and for establishing revenue recovery thresholds and the financing requirements for new facilities when they are needed to provide firm service.

The Commercial Infrastructure workgroup produced this policy proposal as part of a comprehensive regional effort to understand and evaluate these issues. The workgroup proposes that BPA consider revising their methodology for establishing the business case for building and financing new commercial infrastructure. The current policy requires that new service agreements for new facilities provide 100% up front financing. These customers recover their investment through transmission credits. In addition, under current policy, the risk that such projects might trigger FERC's "or" pricing test, could result in an "incremental cost transmission rate" for customers requesting new service requiring new facilities. BPA has never developed such an incremental rate. The lack of precedent or experience in this type of rate development could introduce procedural delays over cost allocation issues. This proposal, if adopted, may reduce the likelihood that an incremental cost transmission rate would be required.

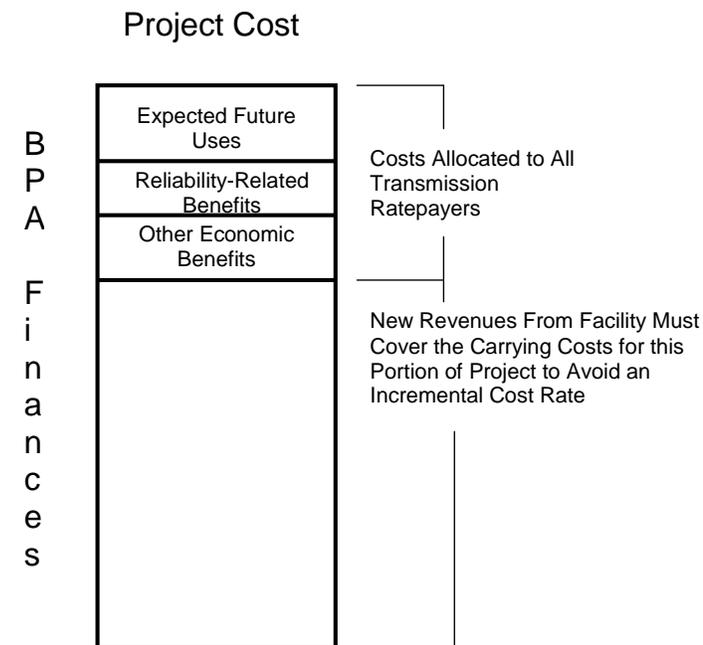
The proposed policy recommendations of this effort are limited to Network upgrades for transmission service. Cost allocation and financing policy for upgrades to Interties and upgrades for Generation Interconnection facilities will require a separate effort.

¹ A transmission request in the long-term queue can "encumber" existing ATC on some or all paths while waiting for studies to be completed on those paths where ATC does not exist sufficient to grant the request.

This proposed policy has two major elements:

- First, we propose that BPA consider an explicit evaluation of the benefits of the project and recover those costs from all transmission customers collectively in the form of general revenue requirements. These benefits include (a) the measurable reliability-related benefits from the project to BPA and to the customers, (b) an allowance for the measurable value of expected future uses, and (c) recognition of the value of other relatively certain and quantifiable economic benefits resulting from the new infrastructure. We further recommend that BPA base the revenue recovery threshold for the remainder of project costs on the Net Present Value (NPV) of long-term commitments (capacity and term length) to pay for service. We acknowledge that BPA may need to develop minimum term length requirements, such as 15 years, and some limitations on extension of commencement of service for including agreements in the revenue threshold determination. We also recognize that BPA may need to develop process that allow those currently in the transmission service queue to increase their requested term lengths to meet or exceed the minimum
- Second, BPA should reconsider the “up front” customer financing requirement and base our threshold for building the project on the present value of commitments to take or pay for long-term firm transmission service and the value of the benefits described above. If the combination of take or pay commitments and other quantifiable future benefits is sufficient to justify a project, then BPA should consider financing the project (through whatever financing is deemed appropriate: Treasury borrowing, third-party financing, revenue financing, etc.).

The illustration below represents how we generally propose to allocate project costs for revenue recovery and shows that we propose BPA obtain financing for the entire cost of the project.



BPA's Enterprise Risk group led an internal risk assessment of our *Status Quo* policy and the workgroup's recommended policy change. The risk assessment found that "The regulatory compliance and reputation risks of the status quo are more severe than the financial, economic and rate impacts of the alternative policy option. That for BPA to "provide regional benefits through commercially successful business" it will need a commercially viable model for balancing regional transmission supply and demand. Changing this policy is a reasonable part of developing that model."

This proposal is consistent with the emerging cost-allocation elements of FERC policy as stated in Order 890 and balances risks among different customer types. The Commission is requiring that Transmission providers develop cost allocation principles as part of their planning process, and this policy proposal can form the basis for those cost allocation principles.

Additionally, the Industry Restructuring group at BPA commented that this proposal complements Columbia Grid (CG) activities. CG will need to develop cost-allocation methodologies for facilities where multiple CG participants are involved, which is within the CG scope. This specific policy proposal allocated costs for facilities solely within BPA's footprint, and may be beneficial in getting new infrastructure built.

BPA's Constituent Account Executives have commented that the policy proposal has received positive general support from State policy and regulatory agencies. These agencies expect BPA to provide greater detail on the implementation metrics for establishing project benefits that result in general revenue requirements paid by all transmission customers.

Because of the enormous uncertainty that transmission introduces in resource planning, and the already long time that some parties have been in the queue, the work group recommends that BPA adopt this proposed policy as soon as possible, via a letter from the Administrator to customers and other interested parties. In order to effectuate such a change, a number of the important details associated with implementation will need to receive immediate attention by affected BPA organizations, especially Corporate Finance and Network Planning which will play a major role in quantifying future beneficial uses and ensuring that the policy does not have unintended consequences with respect to BPA's credit rating and financial performance.

I. PROBLEM STATEMENT

BPA's current commercial infrastructure policy requires that customers committing to take firm transmission service requiring new facilities also provide the "up front" project financing, in return for credits on their transmission bills once service commences. When the required facilities are major new transmission lines, the project costs and customer financing obligation can be hundreds of millions of dollars. Further, the current methodology does not take into account any reliability or other economic benefits created by commercial infrastructure when conducting a commercial project evaluation.. The current policy also requires that the project be fully subscribed with 100% upfront customer financing to cover the entire cost of the project.

The current BPA policy on customer financing was articulated in the Administrator's 2002 PIR closeout Letter. (See the following extract.)

We are presently seeking payments in advance from generators in return for future transmission credits. This approach assures that BPA and the region do not run the risk of having stranded investment if the generators decide to delay or cancel their projects. We will continue to act consistent with FERC's policy as it evolves. We will also continue to monitor the situation to understand how this affects generation construction.

Since this policy was established, BPA has financed and constructed transmission facilities for reliability purposes, but has not constructed any major "economic" or commercial transmission facilities. In 2003, BPA attempted an "open season" to subscribe capacity on a proposed 500kV transmission line from McNary to John Day, but the effort failed to attract enough participants to support the project under the current policy.² Some customers have cited BPA's current customer financing policy and uncertainty about how much capacity we would need to secure under contract to proceed with construction as major factors that limited interest in this project.

BPA has over 8,000 MW of requests for transmission service on the network in the queue and there is insufficient ATC to meet these requests. In order to provide service for new generation to meet the region's expected load growth and other uses, and to achieve the objectives of meeting customer needs as expressed in the Regional Dialogue, BPA may need to reconsider our policies related to commercial infrastructure.

II. SCOPE OF THIS PROPOSAL

The scope of this proposal is targeted at two key issues related to cost allocation and financing of commercial infrastructure projects.

The scope of our policy evaluation and related recommendations are limited to network upgrades required to provide long term firm transmission service on BPA's network. Network upgrades

² The requirement that subscribers finance 100 percent of the project costs resulted in an advance financing requirement for McNary-John Day of about \$167,000 per MW.

required for Generation Interconnection under FERC 2003 Large Generator Interconnection Procedures are not within this scope, nor are upgrades necessary to meet all requests on the Interties. Generation interconnection network upgrades only create the ability for the generator to access the transmission system and do not guarantee rights to firm transmission service. However, if the generator is also applying for firm transmission service, then any network upgrades required for long term firm transmission service would be within the scope of this effort.

The AC and DC Interties to California and the Montana Intertie facilities that move power to and from the BPA network to other regions are out-of-scope for this effort. We recognize that upgrades to those facilities are also important, but the costs and revenues for those facilities are segmented apart from the Network. Transmission customers taking service only on the Network are therefore insulated from Intertie rate increases. BPA may need to initiate a separate process to assess whether or not our current policies still meet customers' needs for Intertie capacity and upgrades.

III. LINKAGES TO OTHER ONGOING TRANSMISSION POLICY EFFORTS

This policy proposal is part of a larger BPA effort to engage the region to develop and evaluate ways that BPA can consider for redefining how we approach offering transmission service to those customers who commit to take and pay for the service. The Regional Dialogue process has focused on the transmission queue issues and our inability to clear it and offer timely positive responses to transmission requests. A cornerstone principle of the Regional Dialogue is that customers may choose BPA to serve their load growth over their high-water mark or they may seek resources from other providers. The inability to secure firm transmission services on the BPA system may undermine the customers' ability to acquire power to meet their Tier 2 needs.

To address these interrelated related issues, BPA Transmission Services has initiated a public process with a Transmission Issues Steering Committee and three workgroups (Regional Dialogue Transmission Issues, Commercial Infrastructure Policy, and Integrated Transmission Planning) to develop proposals and test new concepts for responding to customers who are willing to commit to paying for transmission service when there is insufficient Available Transfer Capability (ATC) to grant requests for that service.

FERC Order 890 contains direction that supports a more open and comprehensive approach to evaluating needs for new commercial facilities and allocating the costs to users of the new facilities as well as to other transmission customers that receive benefits from the construction of those facilities. We believe our *Status Quo* approach may be inconsistent with the Commission's direction.

The following extract is from Order 890:

Commission Determination

557. The Commission finds, after considering the comments, that it is appropriate to include a specific principle regarding cost allocation. The manner in which the costs of new transmission are allocated is critical to the development of new infrastructure. Transmission providers and customers cannot be expected to support the construction of new transmission unless they understand who will pay the associated costs. We therefore

find that, for a planning process to comply with the Final Rule, it must address the allocation of costs of new facilities.....

The cost allocation principle discussed herein is intended to apply to projects that do not fit under the existing structure, such as regional projects involving several transmission owners or economic projects that are identified through the study process described above, rather than through individual requests for service. We will not impose a particular allocation method for such projects, but rather will permit transmission providers and stakeholders to determine their own specific criteria which best fit their own experience and regional needs.....

559...We therefore allow regional flexibility in cost allocation and, when considering a dispute over cost allocation, exercise our judgment by weighing several factors. First, we consider whether a cost allocation proposal fairly assigns costs among participants, including those who cause them to be incurred and those who otherwise benefit from them. Second, we consider whether a cost allocation proposal provides adequate incentives to construct new transmission. Third, we consider whether the proposal is generally supported by state authorities and participants across the region.

560. These three factors are interrelated. For example, a cost allocation proposal that has broad support across a region is more likely to provide adequate incentives to construct new infrastructure than one that does not. The states, which have primary transmission siting authority, may be reluctant to site regional transmission projects if they believe the costs are not being allocated fairly. Similarly, a proposal that allocates costs fairly to participants who benefit from them is more likely to support new investment than one that does not. Adequate financial support for major new transmission projects may not be obtained unless costs are assigned fairly to those who benefit from the project.

561. These factors are particularly important as applied to the economic upgrades discussed above – e.g., upgrades to reduce congestion or enable groups of customers to access new generation. As a general matter, we believe that the beneficiaries of any such project should agree to support the costs of such projects. However, we recognize that there are free rider problems associated with new transmission investment, such that customers who do not agree to support a particular project may nonetheless receive substantial benefits from it. In the past, different regions have attempted to address such issues in a variety of ways, such as by assigning transmission rights only to those who financially support a project or spreading a portion of the cost of certain high-voltage projects more broadly than the immediate beneficiary/supporters of the project. We believe that a range of solutions to this problem are available. We therefore continue to believe that regional solutions that garner the support of stakeholders, including affected state authorities, are preferable. Moreover, it is important that each region address these issues up front, at least in principle, rather than having them re-litigated each time a project is proposed. Participants seeking to support new transmission investment need some degree of certainty regarding cost allocation to pursue such investments.

In another recent action, FERC approved the California Independent System Operator's (CAISO) proposed mechanism for financing facilities to interconnect location-constrained renewable resources such as wind, geothermal and solar generation to the CAISO's transmission grid. The CAISO

mechanism is somewhat similar to our policy proposal by initially allocating project costs to all ratepayers, but the CAISO mechanism goes farther in that it does not establish an explicit initial threshold for signed capacity agreements.

The following is from the FERC press release on the Commission decision:

"The Commission found that the CAISO's proposal strikes a reasonable balance that addresses barriers impeding the development of location-constrained resources while at the same time including appropriate ratepayer protections so as to ensure that rates are just and reasonable and not unduly discriminatory. Electric generation resources become location constrained because of location, relative size and immobility of their fuel source.

Commission Chairman Joseph T. Kelliher observed: "This order will encourage greater fuel diversity in our electricity supply and help California meet its renewable energy targets. We recognize unique characteristics of renewable energy projects, but have been careful not to grant an undue preference. A large and growing number of states have established renewable portfolio standards and National Energy Policy promotes renewable energy. Our action today is fully consistent with both federal and state policy."

The CAISO proposal would initially roll in the costs of interconnection facilities for location-constrained resources to all users of the system through the transmission revenue requirement of the Participating Transmission Owner that constructs the facility, as reflected in the CAISO Transmission Access Charge.

Each generator that interconnects would be responsible for paying its pro rata share of the going-forward costs of the line. All users of the transmission grid would pay the costs of any unsubscribed portion of the line through their inclusion in the Transmission Access Charge until the line is fully subscribed."

A further linkage that we must consider is the enactment of Renewable Portfolio Standards (RPS). RPSs are now in effect in Washington and Montana, and Oregon will likely have an RPS soon. Wind is currently the most viable renewable resource to meet a substantial part of RPS requirements and transmission availability is an issue for wind and other resource developers. The Northwest Wind Integration Action Plan also identified the need for additional transmission capability to move power from areas of high wind power potential to loads.

IV. PROJECT COST CONSIDERATIONS

Prices for tower steel, conductor, transformers, and the other components of new transmission facilities are increasing at a rate that significantly exceeds general inflation or transmission rate increases. This trend is likely to continue. In the last year, steel prices alone have increased by over 20 percent, and experts expect the upward trend to continue for at least a decade. Further, lead times on equipment ordering are increasing significantly. This means longer delays in starting construction, which also increases overall costs.

In 2005, BPA estimated the cost to build McNary - John Day to be approximately \$180 million, fully loaded. The current estimate for this segment is close to \$260 million, fully loaded. Generators may become more reluctant to finance projects as costs climb. Project cost escalation and fairly level transmission rates may result in a scenario where the threshold for new capacity contracts required to avoid an incremental transmission rate actually exceeds the facilities' transfer capability.

V. SPECIFIC POLICY ELEMENTS OF THIS PROPOSAL

The Commercial Infrastructure Workgroup developed and evaluated alternatives to the current policy using the BPA Agency Decision Framework. We used a specific plan-of-service (defined transmission construction project) to get a sense of the expected outcome of policy alternatives to BPA and to customers. The specific plan-of-service we used may or may not be indicative of which facilities would actually be required to provide new service to those who are requesting service and are willing to pay for it.

A. THRESHOLD REVENUE METHODOLOGY

The workgroup proposes that in the future, BPA allocate some project costs to all transmission customers collectively in the form of general revenue requirements based on benefits anticipated from construction of the project. These benefits include the reliability benefits from the project to BPA and to the customers, some allowance for the value of expected future uses, and recognition of the value of other economic benefits resulting from the new infrastructure.

Further, we recommend that BPA establish a revenue threshold for capacity contracts that will cover the remaining project costs over time without triggering an incremental transmission rate for use of the facilities under FERC's "or" pricing test. The revenue threshold should be based on the Present Value (PV) of capacity contracts. If initial revenues from use of the facilities do not meet the revenue threshold, we would then develop an incremental cost rate. Over time, additional revenues from use of the facility should reduce the incremental cost rate until it is equivalent to the embedded cost rates for transmission service.

When the threshold capacity is less than the capacity that will yield revenues that cover all costs for the new facilities, the difference becomes a cost that must be recovered in the transmission rates paid by all customers collectively.

i. Revenues that count toward meeting the threshold:

New long-term firm Point-to-Point service, which is take-or-pay for reserved capacity, provides a predictable new revenue stream over the life of the contract. Transmission customers have the right to continue to take service and rollover their capacity agreements at the end of term. We recommend that BPA make a reasonable assumption that one half of the customers who initially take service on the facilities will rollover their PTP agreements. The workgroup recognized that BPA may need to develop some additional requirements, such as minimum term lengths, developing process that allow transmission service requestors currently in queue to increase their requested term if BPA does establish minimums, and limiting extension for commencement of service for revenues that count toward the threshold.

Other assumptions are necessary for new NT revenues. Because revenues from NT service are based on NT customers' loads, additional NT revenues only occur as loads increase over time. We propose including the revenues from NT load growth served by designated NT resources requiring the facilities as part of the revenue stream counting towards meeting the threshold. Since different resource types have different capacity factors that affect their average use of facilities, and thus the expected NT revenues, we propose adjusting specific NT resources by the generic resource capacity factors in the Northwest Power Plan unless the NT customer's specific NT resource has a higher capacity factor as documented in their application to add the resource.

ii. Establishing a threshold that is less than full cost recovery from use of the facilities:

Currently, 100 percent of the revenue requirement for commercial projects must be covered by new revenues from use of the facilities to avoid charging an incremental cost rate for use of the new facilities. Emerging FERC policy and comments from BPA staff and customers participating in this effort suggest that our current policy does not appropriately allocate costs to all transmission customers when they receive benefits from the project.

We propose that the value of elements described below be included in the NPV analysis used for project justification and for establishing the revenue threshold for the facilities. In following sections, we evaluate the policy alternatives for these elements in the context of the BPA agency decision framework and we will test our proposal using the objectives and measures agreed to by the Transmission Issues Policy Steering Committee.

(a) Attributing quantifiable reliability-related benefits to the plan-of-service:

Commercial projects may yield reliability-related benefits for the Network. Assigning a value to these benefits and allocating the benefits to all customers would reduce the revenue threshold for capacity contracts to avoid an incremental cost rate for use of those facilities. Examples of reliability-related benefits include use of the facilities to support quantifiable, highly likely future NT load growth, increased operational flexibility and increased ability to take outages on other facilities. The value of planned reliability projects that are deferred to a future date or no longer needed due to construction of the new commercial facilities is also part of reliability-related benefits.

(b) Allowance for measurable future expected uses:

In addition to reliability benefits, the methodology takes into account expected future Long-term Point-to Point uses. Customers may submit additional firm transmission

service requests that would begin to use the new facilities sometime after the decision to proceed with construction. Examples would include generators that have signed interconnection agreements but have not secured power purchase agreements and have not submitted firm transmission service requests prior to the decision to proceed with the construction. There also may be integrated resource plans or regional power plans that strongly indicate resource development needs in specific areas that match well with the added infrastructure. Load serving utilities may have load growth obligations and RPS obligations that would suggest that additional requests for transmission service will occur in the near future. *Implementation of this methodology requires development of specific criteria to provide reasonable certainty of expected future uses.*

Incorporating a well-defined allowance for these expected uses into the threshold determination would further reduce the revenue requirement from use of the facilities to avoid an incremental cost rate. The workgroup acknowledges that there is some rate risk for all customers in this allowance, but if the assumptions about future uses are reasonable and risk-adjusted then there is only a small probability that there will be a significant under-recovery resulting in large general rate increases.

(c) Allowance for other measurable economic benefits

The additional transmission capacity may generate other economic benefits and reliability benefits for customers that are not recognized above. These economic benefits are not benefits to just the customers taking service on the new facilities. We include in these benefits: the value of reduced losses on the system resulting from the addition of the commercial infrastructure, the value of expected reduction in RAS tripping of generators, the reduction of various redispatch operations, and the reduced need to seek higher cost short-term power purchases due to reduced impact of outages. Careful quantification of these benefits will be essential if they are to be included in the value proposition of a new facility. *Implementation of this methodology requires development of specific criteria to provide reasonable certainty of expected future uses.*

B. COMMERCIAL PROJECT FINANCING

As mentioned above, BPA's current policy requires those who accept service to also finance the cost of any required facilities. Since BPA adopted this policy, they have not been able to garner sufficient critical mass to finance high-cost major transmission additions. Establishing acceptable latecomer provisions for assessing and redistributing the up-front charges to additional customers that take service on the facilities after the initial customers have financed the project has also proven problematic. NT customers seeking to integrate new non-Federal resources that require new facilities are unwilling to undertake project financing and the associated long-term exposure.

Generating customers have expressed a willingness to assume some risk by constructing projects and using less-than-firm transmission services as a bridge when there is certainty of firm service in the future. Given the lead time of four to five years to plan-design-build major infrastructure projects, BPA could receive considerable new revenues in advance of transmission project construction when customers proceed with development of new generation and use non-firm, conditional firm, redispatch agreements or other transitional products as a bridge to firm service.

Customers putting up the financing for commercial projects are likely to have negative arbitrage (i.e., a loss) between the interest rate they *pay* to borrow funds for the up-front financing and the interest rate they *earn* on their transmission credit balance held by BPA. BPA's finance office estimates a range of customer's borrowing rates, from a tax-exempt rate of 4.9% to a taxable rate of 11%. BPA's borrowing rate is expected to be 6.1% to 6.5%, and the interest rate BPA would now pay on transmission credit balances is 5.3%. The net impact is that customers could be 0.4% better off to 5.7% worse off due to the up-front customer financing requirement. The average impact would depend on the actual borrowers, but is likely negative overall.

On the other hand, removing, in whole or in part, the customer as a source of commercial project financing puts pressure on BPA's financing resources. The agency has limited access to Treasury borrowing authority and there is always uncertainty about BPA's access to 3rd party financing in the future. Any additional capital requirement resulting from a policy change regarding commercial projects may result in a lack of available capital for needed reliability projects.

Proposed: BPA-arranged financing for commercial projects:

We propose that BPA use its own source of capital to finance a transmission projects needed to meet a transmission request or cluster of requests when the revenue threshold is met. We are not prescribing how BPA finance upgrades in this policy proposal. BPA would be free to use the most cost-effective form of financing, including Treasury borrowing and third-party financing. The workgroup recognizes that this proposal is viable only to the extent that BPA has access to capital

C. TESTING THE PROPOSAL ON A SPECIFIC PLAN-OF-SERVICE

To get a sense of how the threshold for capacity contracts and the proposal to have BPA finance transmission projects needed to answer transmission request would affect rates, we used a plan-of-service for West of McNary to Big Eddy. This project may be needed to move power from eastside resources to loads. The term “may” is used because we will only know with certainty which facilities are actually needed when we have completed studies based on commitments to take new firm service.

For illustration purposes, we used the Net Present Value (NPV) of future revenues and costs to determine the amount of initial capacity contracts needed to meet a range of revenue thresholds. Again, the revenue threshold is the Present Value of contracts needed to recover project costs over time. For this analysis, we assumed all contracts have a 30 year term length. We propose that when evaluating an actual project, to use the actual contract term lengths and assume one half of those contracts would continue to roll over. Although we recognize that BPA may need to establish term length minimums for counting contracts toward meeting the revenue threshold and may need to develop processes to accommodate requests currently in the queue if minimum term lengths, such as 15 years or greater are established, we expect that the average contract length would be for a longer duration than the minimum. An average contract length of 15 years as opposed to 30 years would result in considerably higher capacity under contract to meet the NPV of future revenues threshold.

We used a first year rate impact test to generally estimate first year rate pressure.

The sum of reliability-related benefits, future expected uses, and other economic benefits is the portion of the project costs that would not be required to be recovered solely from new users of those specific facilities. This portion would be recovered from all transmission rate payers collectively. Since we do not have commitments to take firm service in hand, allocating costs to future uses is problematic. Quantifying the potential reliability and other benefits is also problematic without knowing the detailed plan-of-service.

The results of our analysis are shown in Table 1

Table 1

The following lists the input assumptions used for the NPV model:

COST ASSUMPTION INPUTS

Project Assumptions

Direct Cost	\$ 220,000,000
Capital Loadings (Avg.) ³	30.0%
Project Cost (Loaded)	\$ 286,000,000
Construction Term (Years)	5
First Year of Construction	2008

Financing Assumptions

Cost of Debt	6.5%
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Capital Carrying Cost Assumptions

AFUDC Rate	5.0%
Depreciable Life (years)	40
Average Annual O&M Expense (% of Cap Ex)	0.5%
Inflation Rate	3.0%

REVENUE ASSUMPTION INPUTS

Transmission Rate Assumptions

Long-Term Point-to-Point rate (\$/kW-mo)	\$ 1.298
Scheduling, Control and Dispatch rate (\$/kW-mo)	\$ 0.0203
Term Length	30 years

³ This is BPA's average capital loading factor for transmission projects. When this policy is implemented for a specific project, it is expected that an incremental capital loading factor would be used, or an adjustment made in calculations of rate impacts to reflect the fact that overhead costs would be spread across larger amounts of sales.

RESULTS

AGGREGATED BENEFIT: This is the sum of the reliability-related, expected future uses, and other economic benefits, expressed as a percentage of project costs. Zero benefits would require all project costs be recovered from incremental revenues from use of the facilities. One hundred percent benefit is shown to illustrate the maximum transmission rate increase that would result if all project costs are rolled-in to rates and there is no new revenue from specific new users of those facilities.

INITIAL SUBSCRIPTION: This is the capacity of new PTP and NT transmission service agreements needed to meet the revenue threshold requirement. The aggregate benefit is subtracted from project costs to inform the model input, and capital carrying costs and expenses are calculated to determine the revenue requirement.

UPWARD RATE PRESSURE: This is the first-year upward rate pressure on all transmission rate payers that would result from revenue under-recovery from use of the new commercial facilities. The under-recovery is a direct function of the aggregate benefits attributed to the project. As additional new customers begin taking service on the facilities, the upward rate pressure will decline over time. It is important to note that upward rate pressure does not necessarily imply rate increases. Total revenue requirements and sales forecasts determine whether or not a rate increase is necessary to fully recover all costs.

Table 1: Initial Capacity and First-Year Rate Pressure

Aggregated Network Benefit (percentage of project costs)	Required Initial Capacity Under Contract (MW)	Upward Transmission Rate Pressure (percent)
10	1,258	0.5
20	1,118	1
30	979	1.5

ALTERNATIVES CONSIDERED

1.) Attributing Reliability-Related Benefits to the Plan-of-Service

- A) Status quo: reliability benefits not recognized; incremental revenues from use of facilities must cover all costs for the facilities.
- B) Recognize reliability-related benefits with an explicit upper limit; this limit could be a percent of project costs, or defined in terms of an annual increase in transmission rates.
- C) Proposed: Recognize reliability-related benefits with no explicit upper limit for a specific plan-of-service. The attributed benefits would be calculated for the project using appropriate assumptions about the value of reliability projects deferred, eliminated, or made less expensive by constructing the commercial project. Also included is the value of increased operational and maintenance flexibility.

	Alternative A	Alternative B	Alternative C
BPA Business/Finance Rate Impacts	Does not result in rate pressure from under-recovery from the facilities	Specifically limits unrecovered rate pressure	Established by reasonable assumptions
Legal Consistent with FERC Policy	Not consistent with FERC 890 directives from the commission	May not be consistent with FERC 890 if the limit becomes an automatic allocation for all projects, irrespective of their actual benefits	Consistent with FERC 890
External Stakeholders			
<i>Customers</i>	For customers not expecting to need any new facilities this is acceptable	For customers needing new facilities this limit is arbitrary and does not seem reasonable.	Reasonable assumptions will yield reasonable results and the costs of the benefits shared by all customers are paid for by all customers
BPA's People & Processes	No additional burden on staff to assess and quantify the reliability benefits	Developing reasonable estimates of the benefits may prove problematic and will be assumption-driven	Same as B: Developing reasonable estimates of the benefits may prove problematic and will be assumption-driven

2.) Allowance for Expected Future Uses

Additional transmission service requests requiring the facilities will likely materialize sometime after the decision to proceed with construction. There should be a good planning basis to calculating the expected future uses.

ALTERNATIVES:

A) Status quo: Expected future uses not recognized.

B) Proposed: Assume that the additional transmission capacity will create ATC that will be sold and that there is planning basis for the expectation, such as load growth that may be met by generators planning to interconnect to new facilities, RPS, power plans and near-term expected resource development. Also included here is enabling the rollover of existing contracts where Rights of First Refusal for continued service had been denied due to lack of future ATC when the contract was originally signed.

	Alternative A	Alternative B
BPA Business/Finance Rate Impacts	Does not result in rate pressure from under-recovery from the facilities	Allows for some upward rate pressure, but mitigates the risk of such
Legal Consistent with FERC Policy	Not inconsistent with FERC 890 directives from the commission	Not inconsistent with FERC 890 directives from the commission
External Stakeholders <i>Customers</i>	Not supported by customers that have stated they are supportive of building in advance of need willing to see upward rate pressure if we build.	This is the supported alternative. Customers cannot always anticipate the future need for new facilities due to RPS or other emerging requirements.
BPA's People & Processes	No additional burden on staff to assess and quantify the expected uses	Developing reasonable estimates may prove problematic and will be assumption-driven, as are all planning efforts

3.) Allowance for Other Economic Benefits

The additional transmission capacity may generate other economic benefits for customers not recognized above.

A) Status quo: other economic benefits not recognized.

B) Proposed: Assume appropriate reductions in the need to redispatch generation due to the availability of additional transmission capacity; loss reductions, consider other, similar benefits.

	Alternative A	Alternative B
BPA Business/Finance Rate Impacts	Does not result in rate pressure from under-recovery from the facilities	Reasonable assumptions should result in a reasonable allocation of these benefits. Unlikely to result in significant rate increases.
Legal Consistent with FERC Policy	not consistent with 890 direction	not inconsistent
External Stakeholders <i>Customers</i>	Not consistent with customers preferred alternative	This alternative is preferred by customers. Recognition of these benefits makes the evaluation more balanced and not so BPA-benefit specific
BPA's People & Processes	No additional burden on staff to assess and quantify the reliability benefits	Developing reasonable estimates of the benefits may prove problematic and will be assumption-driven

Alternatives to 100% Participant Advance Funding Requirement

ALTERNATIVES

A) Status quo: retain requirement that participants provide advance funding of all costs not covered under 1.), 2.) or 3.) above.

B) Proposed: Remove advance funding requirement, mitigate under-utilized asset risk with Letter of Credit or other financial security, which is released when service commences.

C) Relax Participant advance funding requirement to some percentage split between BPA and Customer.

	Alternative A	Alternative B	Alternative C
BPA Business/Finance Rate Impacts	Possible upward rate pressure when the interest we pay on credits balance is greater than the interest rate we receive on balance	No rate impact unless assets are underutilized. If transitional products are used in advance of construction, may be downward pressure on rates.	No rate impact unless assets are underutilized
Finance	No finance impact	Puts pressure on BPA to arrange financing	Puts less financing pressure on BPA than B
Legal Consistent with FERC Policy	not consistent	not inconsistent	not inconsistent
External Stakeholders <i>Customers</i>	Has proven unacceptable. Not a successful strategy for growing the system to meet customer needs	This is the customers' preferred alternative. Customer suggest we base the decision to build on the value of agreements, not on willingness to finance	Not preferred, does not fix latecomer problems and is still burdensome to small customers wanting a piece of a new renewable resource.
BPA's People & Processes	Neutral	Neutral	Neutral

VI. SUMMARY OF RECOMMENDATIONS

After considerable discussion of the alternatives and how they would impact BPA and customers, the workgroup reached a unanimous decision to make the following recommendations:

1. **Recognize the value of reliability-related benefits from commercial projects.** These benefits should be determined on a project-by-project basis, without an explicit upper limit per project, using reasonable criteria for calculating the value of the benefits. The value of these benefits should be rolled into rates without an expectation that revenues for use of new facilities will immediately cover the costs of providing these benefits. This benefit value should be included in the NPV analysis for project justification.
2. **Include expected future uses in the threshold determination.** The value of the expected future uses should also be included in the NPV analysis for project justification.
3. **Include other economic benefits in the threshold determination.** The value of these benefits also included in the NPV analysis for project justification and rolled-in to rates as described above.
4. **Establish a threshold for capacity agreements that will avoid an incremental transmission rate for use of new network facilities.** The threshold should be based on the revenue stream that will cover construction and maintenance costs for the project minus the value of the benefits described above.
5. **Do not require customers to provide project financing for network upgrades; instead, BPA will finance these upgrades and recover costs from rates of general application.** The business case for building commercial infrastructure should be based on the value of signed agreements to take and pay for transmission service. It is reasonable to mitigate the part of the risk of under-recovery of revenues by requiring Letters of Credit or other financial security (e.g., minimum credit rating) until the customer begins taking service.

WORKGROUP PARTICIPANTS

Mark Jackson	BPA Transmission Business Strategy and Policy
Steve Knudsen	BPA Transmission Business Strategy and Policy
Pat Rochelle	BPA Transmission Network Planning
Bob King	BPA Transmission Sales
Nancy Baker	BPA Transmission Rates
Nancy Parker	BPA Transmission Rates
Eric Taylor	BPA Transmission Revenue Forecasting
Dennis Metcalf	BPA Transmission Tariff Advisor
Tom Noguchi	BPA Transmission Customer Account Executive
Young Linn	BPA Transmission Customer Account Executive
Angela De Clerck	BPA Transmission Customer Account Executive
Eric Westman	BPA Enterprise Risk Office
Jon Dull	BPA Finance
Don Carbonari	BPA Finance
Virginia Schaeffer	BPA Office of General Counsel, Transmission
John Johannis	BPA Power
Margaret Mainzer	BPA Power
Natalie McIntire	Renewable Northwest Project
Scott Brattebo	PacifiCorp
Doug Faulkner	Puget Sound Energy
Mike Raschio	Consultant
Geoff Carr	NRU
Aleka Scott	PNGC
Ed Groce	Avista
Mike Bradshaw	Chelan PUD
Lon Peters	Consultant to the Public Generating Pool
Linda Finley	SNOPUD
John Saven	NRU