

# Additional Transmission Follow-ups

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**Transmission Services is employing a prioritization process to rank, fund and time construction for transmission facilities projects. This is a very constructive development that we would like to understand fully. Please hold a workshop to explain in detail the process, considerations and the reasons for trade-offs made in prioritizing transmission projects.**

At BPA -

- All capital investments are prioritized and require a business case
  - Sustain, through asset strategies
  - Expansion, through the capital investment prioritization process
- BPA multi-year capital portfolio is reviewed every 6 months and re-balanced.
- Capital budget by asset category is managed within the levels set through BP-18 and trade-offs are made between investments to stay within those levels.
- Expansion investment costs and benefits are assessed and evaluated based on net economic benefit ratio. (See "[Capital Portfolio Management](#)" IPR workshop materials, page 28, for more information)
- Costs and benefits are assessed using ranges to capture the uncertainty and risk of the investment and inform decision-making.

## Transmission Services Sustain prioritization:

Transmission Services prioritizes sustain investments as described in the Transmission Asset Management strategy by targeting replacements that best mitigate risks to the system. Risks are classified by the likelihood and consequence of equipment failure and the potential for curtailments and outages should equipment failure occur. By evaluating the financial impact of outages and the likelihood that specific types of equipment could result in an outage, we can aggregate the Total Economic Cost associated with this risk. We are now able to compare the impact to Total Economic Cost across all sustain investments and prioritize the replacements within capital funding levels that result in a reduction of Total Economic Cost. Industry has established a standard methodology we use in the prioritization process for calculating the financial impact of outages. Whether or not these industry costs are exactly representative of our service area, we use them as a standard for relative prioritization and not as an absolute value. Thus, the particular costs used to model financial loss is less important than the methodical application of a standard to give relative values for priority of investment.

Each sustain program (Substation AC, Power System Control, System Protection & Control, Control Center, Rights of Way, Steel Lines, Wood Pole Lines) have planning models that identify the optimal levels of investment in each program towards minimizing total economic cost and best meeting the Transmission Asset Management strategic objectives.

The components of total economic cost are:

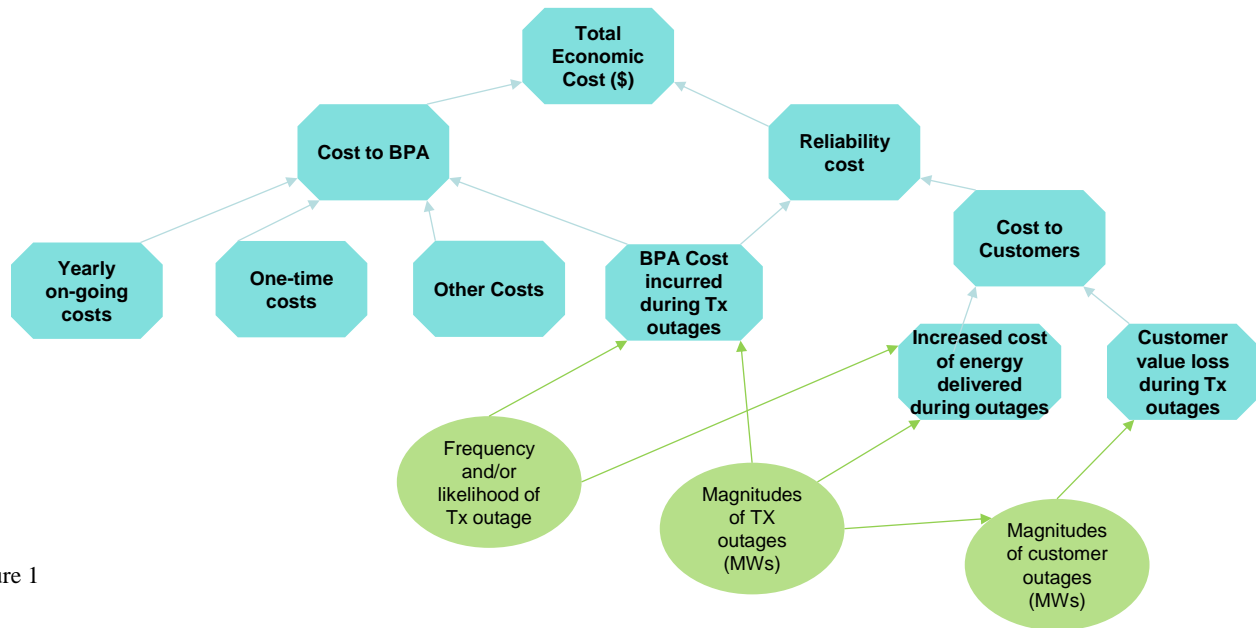


Figure 1

Transmission Services Expand prioritization:

Expansion-type investments, greater than \$3M, are prioritized using a BPA-wide process. Each asset category nominates, assesses and evaluates its proposed investments using a standardized value-based approach. The results are combined and then prioritized by BPA’s Finance Committee to form the agency capital portfolio and inform the level of funding needed by each asset category to be submitted into the Capital Investment Review and rate case process. These investments, along with a base level of small capital expansion-type investments (less than \$3M) form the total forecast for Transmission Services expansion needs.

**We would also like the workshop to cover:**

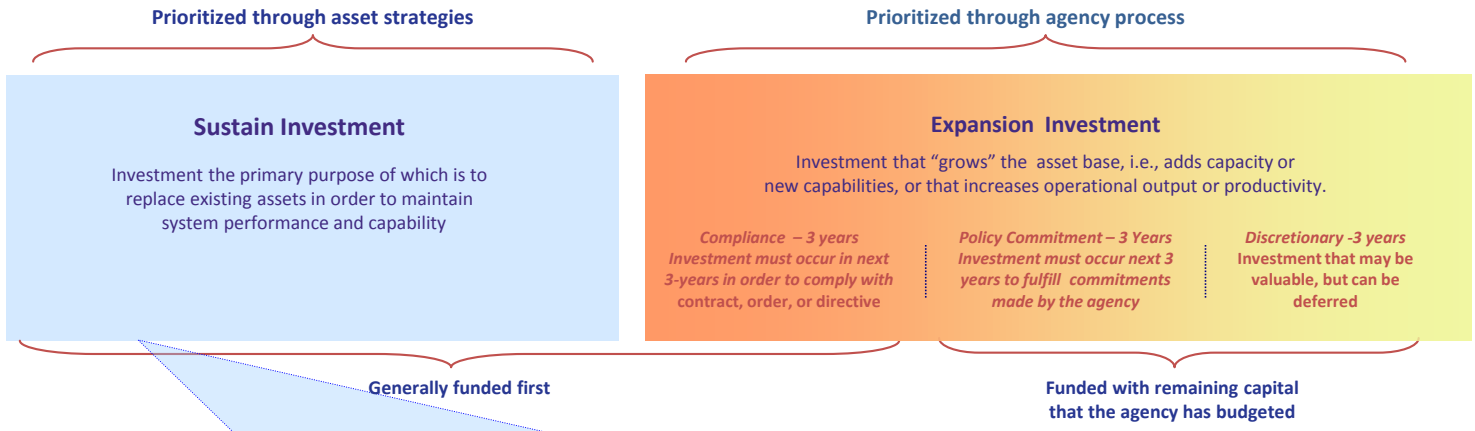
**How considerations are weighted for different facilities and whether those changes are based on the nature of funding, type of project or other factors.**

Prioritization is driven by three main factors – safety and compliance requirements and value (demonstrated through either total economic cost or the net economic benefit ratio as described above). It is indifferent to the nature of the funding (assuming it is BPA funding) or type of project (beyond compliance projects which have priority).

**Do “sustain” projects get a higher priority to funding and construction schedule over “expand” projects and if not, why not?**

Yes, BPA has made the decision that investments to sustain BPA’s existing assets have highest priority for capital funding. However, we recognize that there will be times when high demand for expansion investment will put pressure on the sustain levels. We are exploring ways to manage to a certain level of sustain investment during those times. Here again, the focus will remain on value.

Every six months, an evaluation of expand investments is conducted and those investments that result in significant value to BPA and its customers are included in the capital portfolio along with sustain investments. Asset plans are then developed that target the prioritized sustain and expand investments shown to provide the greatest value. For the BP-18 rate case, Transmission’s capital program is approximately 60% sustain, 40% expand.



Sustain investments are exempt from the process. Effectively, the prioritization process covers investments that do not meet the definition of sustain.

Sustain investment is prioritized through condition-based risk assessments, in which the highest priority is assigned to the most critical equipment and facilities at greatest risk of failure, obsolescence, safety issue, or other risk factor. Included are projects necessary to make sustain investment viable, such as access roads that enable line replacements. Prioritization of sustain investment occurs within the asset strategies that are developed by each asset category and approved by the Finance Committee.

- For Transmission, sustain investments include investments the primary purpose of which is to replace existing assets to manage failure, obsolescence, safety, and other risks. Investments the primary purpose of which is to upgrade or add capacity, flexibility, and other capabilities are classified as Expansion/Non-Core Sustain
- For Federal Hydro, sustain investments include investments the primary purpose of which is to replace existing assets to manage failure, obsolescence, environmental, or safety risks. Investments the primary purpose of which is to improve generating efficiency or add generating capability are classified as expansion
- For IT, sustain investments include investments the primary purpose of which is to replace end-of-life cycle, failing, or technologically obsolete hardware. All other investment, including all software applications, are classified as expansion
- For Facilities, sustain investments include investments the primary purpose of which is to replace existing assets to manage failure risks and functional obsolescence, and mitigate safety risks. Investments the primary purpose of which is to upgrade or add capacity, flexibility, and other capabilities are classified as expansion. This includes maintenance headquarters upgrades and additions, new office facilities, and HMEM garages

Energy Efficiency capital spending that implements the power plan and Fish and Wildlife capital investments that implement the BOp and current fish accords are generally prioritized by entities outside the FCRPS. For purposes of the 2013 process at least, these investments will be treated as if they were “core sustain” investments

The asset plans drive the development of projects and associated construction schedules. For both sustain and expand projects, sequencing of construction schedules is determined during the project planning process and takes into account the following considerations:

- Time needed for adequate scoping
- NEPA and other environmental assessments
- Outage availability
- Resource availability
- Materials lead time
- Contract procurement schedules

**How does BPA view its tariff obligation to build for NT load growth in the context of prioritization of transmission projects?**

Distinct and separate from the Transmission System Request Study and Expansion Process (TSEP), BPA performs annual screening studies to identify any need for system reinforcement.

This information was made publicly available on July 27, 2016, and contains information not sourced directly from BPA financial statements.

BPA considers the following factors during the annual screening to determine the prioritization of the reinforcement when needed to serve an NT Customer:

- BPA confirms that the NT Customer has provided reasonable load and resource forecasts to provide BPA sufficient Planning information needed to identify necessary reinforcements.
- BPA determines that the projected load requirement of the NT Customer is within the capability of the customer's Designated Network Resources

If both of the preceding conditions are met, the BPA Planning considers the identified system reinforcement to be a requirement to meet reliability standards and submits the project for funding as an Expansion investment for prioritization.

**If sustain and expand projects compete against each other for funding and construction scheduling, how are decisions made to pick one project over another?**

Per the agency prioritization process, a certain level of sustain investment is funded first and does not compete against expand for capital funding. However, if an expand investment emerges that would displace sustain work, it must demonstrate that the investment delivers greater value to the system than the planned sustain work that would be displaced. We are exploring ways to quantify the value of the sustain program on the margin so that these types of comparisons can be made.

**In the process of prioritizing projects for a rate period, what consideration is given to rate impacts?**

- i. **If no consideration is given to rate impacts, why?**
- ii. **If consideration is given, is there a rate target that Transmission Services may spend up to and how is that set?**
- iii. **If there is no target, how are decisions made to cap projects for a rate period?**

As previously stated in our 7/1/16 [follow up to the Transmission IPR workshop](#), the primary rate impact of the capital investment program is driven by the level of the program itself. The levels in the IPR/CIR proposal were informed by a long-term rate trajectory and balanced against near term impacts on our ability to deliver on our mission. Those capital investment levels are lower than what our analysis of the system needs indicated. As a result, it is our intention to fully invest to the proposed capital levels. Prioritization will not change those levels, so prioritization would not be expected to have a major impact on rates because that would require a significant change in capital levels.

In this approach, prioritization plays a more subtle, but important role. Prioritization ensures that we select the most valuable investments within the proposed levels. By investing our proposed capital levels prioritized by the Net Economic Benefit Ratio and Total Economic Cost (and its equivalent in Power), we ensure that we make the highest value investments first. That will ensure that we get the most value for our investments which, in turn, generally ensure the best rate outcome. In very limited cases, it is possible that a high-value investment may rank well in prioritization based on benefits that flow to the region and not entirely to BPA. Even in those limited cases, there is a regional benefit that the analysis shows outweighs the cost borne by BPA.

**In regard to the expand projects, planning is currently designed to meet TSRs but there is often non-wires solutions that could be considered at the start of the planning process. These types of solutions could lower BPA's cost of service.**

**What consideration has Transmission Services given to including non-wires solutions upfront in the TSEP process as a way to meet strategic goals of cost containment? At this point, non-wires solutions seem like an afterthought and not an integral part of the analysis or planning process.**

BPA has heard the concern of the customers through the TSEP and TLS discussions and we are explicitly noting that identification and evaluation of non-wire alternatives will be done along with the plan of service options. Provided that BPA can identify non-wire alternatives in a manner that allows BPA to respond to customer transmission needs and meet its tariff obligations for providing service, these options will certainly be evaluated along with the traditional build options.

**In order to conserve capital and meet strategic goals, has Transmission Services considered making the analysis of the need and the potential array of solutions part of the TSEP process?**

Yes. The TSEP process is intended to respond to queued transmission requests or requested need through the NT Planning Dialogue by looking at build and non-wires solutions, provided that the solution meets BPA's tariff obligations for providing incremental transmission service. In addition, TSEP will look at what might be funded by others and take BPA's capital constraints into consideration by integrating TSEP plans of service into the capital prioritization process.

**Additional analysis also might shed more light on the particular causes of actual or forecasted problems. This might entail more granular analysis of seasonal use; the patterns, shape and timing of forecasted peak uses contributing to the problem to be solved; more probabilistic analysis of correlation of use and congestion; and other development of other information that would allow non-wires solutions to be developed in tandem with new line construction proposals. Does BPA agree that this analysis may reduce eventual costs and better allocate responsibility for those costs at a time when third-party capital participation may be more useful?**

Using correlations and probabilistic analysis should reduce the future capital costs, however, many of the costs that are currently in the capital budget are not for the expansion of the BPA transmission system. Most of the capital costs are related to the sustainment of the transmission system. But generally yes, a more in-depth analysis of the causes of congestion can help to allow non-wire solutions to be developed alongside new line construction proposals.