

Bonneville Power Administration Long-Term Transmission Service Study and Expansion Process

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For Discussion Purposes Only



TSR Study and Expansion Process (TSEP)

- BPA's process for conducting required studies (system impact and facilities) for incremental requests for service
- Evaluating and responding to TSRs largely mirrors the method defined by the Federal Energy Regulatory Commission's *pro forma* tariff
 - BPA has 30-day response requirement to notify the requesting customer whether BPA can provide requested service without requiring a study (section 17.5)
 - If the existing system cannot enable the TSR, BPA is obligated to offer to study and identify plans of service to upgrade the transmission system (sections 13.5, 15.4, 19 and 32)
 - The obligation to offer to study and upgrade its system is identically applied to Network Integration Transmission Service (NITS or NT) Customers (section 32)



TSR Study and Expansion Process (TSEP)

- BPA has historically (since 2008) relied on a “Cluster Study”, aggregating all eligible requests and combining the SIS and FS into a single study
 - The customer always has the option to request to be studied on an individual basis
- Benefits of clustering:
 - Participant cost sharing
 - More efficient sizing of upgrades
 - More efficient queue processing and response (queue re-stacking)
 - Higher project subscription helps project business case and rate treatment
- Risk to clustering:
 - Cost allocations can fluctuate over time based on participation levels (good or bad)
 - Customers awaiting the next BPA Cluster Study can sit in queue for a lengthy period of time (currently conducted yearly)



TSR Study and Expansion Process (TSEP)

Phase 1: Pre-Study

•Pre-study:

- Customer TSR submittal and ATC assessment;
- Period between close of last TSR deadline and next TSR deadline for Cluster Study participation (typically June-May)
- \$ - TSR deposit and processing fee

Phase 2: Cluster Study

•Cluster Study:

- BPA tenders Study Agreements following TSR deadline;
- BPA commences and completes study (120-day study period);
- Results: preliminary plan of service scope, cost, and schedule;
- \$ - Customer's pro rata share of costs by MW

Phase 3: Preliminary Engineering

•Preliminary Engineering/Plan of Service Validation:

- Refinement of cost and scope of Cluster Study results;
- Estimation of Environmental Review scope and costs;
- \$ - Customer's pro rata share of costs by MW

Phase 4: Environmental Review

•Environmental Review:

- Required NEPA review of environmental impacts based on identified plan of service
- Includes Record of Decision on proposed action, and whether to build the project;
- \$ - Customer's pro rata share of costs by MW

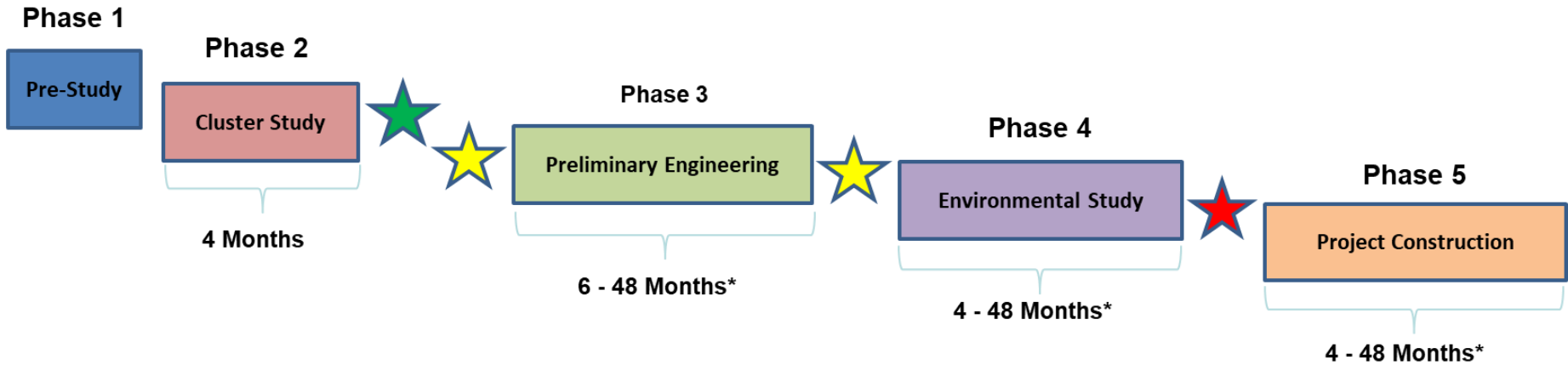
Phase 5: Project Construction

•Project Construction:

- Construction and Energization of identified transmission project;
- \$ - Customer secures its pro rata MW share of construction costs (letter of credit, etc.)



TSR Study and Expansion Process (TSEP)



At each of these points, BPA refreshes project-specific information, and the customers may decide whether to proceed.

*Estimated range; actual timelines vary based on project scope and/or environmental impacts



Customer Closeout Package – Study participants are provided with a study report, a closeout letter detailing the requirements for each of their TSRs to obtain service, and an election form to determine the next steps for each of their TSRs. If applicable, the customer may be tendered an offer for LTF service.



Next Step Agreements - Prior to the commencement of a next phase, BPA will provide customers with updated information on the rate treatment, percentage shares of projects, other non-binding information, such as estimated project costs or timelines. An offer of CFS, if applicable, maybe be made at this time. BPA will provide the customer with Preliminary Engineering or Environmental Study agreements, or both as is applicable.



Service Agreement - Prior to the construction decision, BPA will determine whether to offer the requested service at an embedded or incremental rate. BPA will offer the Customer a service agreement for the requested service.



Requesting LT Service and Evaluating ATC

- Customers mostly submit requests via OASIS
 - Minimum timeframe for a request is 1 year
- BPA evaluates Transmission Service Requests (TSRs) per the [Transmission Service Requests Evaluation](#) business practice
 - Uses PTDF assessment to compare request's impact on LT flowgates to LT ATC (updated yearly)
 - Each request is reviewed to determine whether the PTDF assessment is an adequate representation of expected impacts
 - Considers local subgrid area reliability limitations in addition to the impacts on BPA's LT flowgates
- All LT TSRs are initially placed in STUDY status on OASIS until evaluated, though a formal SIS (along with a study agreement) may not be necessary
- Evaluation decides whether a TSR may be confirmed firm service or sent to the next Cluster Study cycle



TSR Study and Expansion Process (TSEP)

- To initiate a Cluster Study, BPA posts a notice to its OASIS (and emails all stakeholders) of its intent to conduct a Cluster Study
 - Notice is generally posted 45-60 days in advance of the deadline for customers to submit TSRs
 - This notice will include the rationale, eligibility requirements, and the deadline for customers to submit TSRs
 - BPA strives to complete the study within a 120-day period (4 months)
- To participate in the CS a customer must submit a TSR on OASIS by the annual cut-off for participation, complete their data exhibit, then sign and fund a Cluster Study Agreement
- All TSRs meeting the above requirements will be studied as part of the upcoming cycle. TSRs which do not meet all of the requirements will be removed from the queue and lose their queue priority



TSEP – Needs Assessment

- Define transmission capacity requirements driven by TSEP TSRs.
 - Capacity requirements handed off for plan of service development
- Analyze a robust set of scenarios to capture anticipated firm Network flowgate utilization.
 - Powerflow-based study approach to defining requirements for TSRs in the LT queue
 - Allows us to tailor each year's study to attributes of TSRs in the Cluster Study, and allows for consistent updates to assumptions based on what we know of potential future states
 - Integrates risk-based planning into study assumptions to potentially identify more awardable service



TSEP – Needs Assessment Methodology

- Within the data exhibits, BPA asks customers to provide resource-specific information for requests, such as fuel type, point of interconnection, GI Study # (where applicable)
 - This is used to model resources according to most up-to-date information, and to align modeling with GI studies performed by reliability planning group
- Study utilizes LT ATC seasonal cases, adjusted to match scenario descriptions
 - Models previously studied plans of service, if appropriate
 - Models TSRs on/off according to scenario definition (i.e. Wind on/off)
 - Case balanced according to merit order developed for each scenario
- TSRs producing counterflow not modeled
- Cumulative Demand TSRs are limited by maximum resource output
- Model additional sensitivities to account for uncertainties in future state



TSEP – Cluster Study and Plans of Service

- Maximum flowgate utilization across Needs Assessment scenarios is the capacity requirement for Cluster Study and Plan of Service development
- First level of assessment is to evaluate whether existing system can Reliably accommodate the requested service while meeting existing obligations
- Further assessment, if needed, identifies additional requirements to accommodate the request(s)
 - Will leverage past studies, such as requests for interconnection or expected but not yet committed projects and system expansion
 - Reinforcement projects often provide sizable shifts in Transmission capacity that don't align with individual requests for service. It is likely that required expansions will provide capacity in excess of the identified requirement
 - BPA also recognizes that responsible development of the system seeks to limit environmental, cost, and societal impacts due to repeated expansion of the system. Therefore, expansion may significantly exceed the immediate needs of individual requests for service



TSEP – Cluster Study Closeout

- Announcement of Cluster Study completion is sent to study participants at the close of the 120-day Cluster Study window
- Study participants are issued a Cluster Study Closeout Package containing:
 - Closeout letter with their specific study findings
 - Outlines specific plan(s) of service required for each TSR
 - Includes initial economic analysis and next steps
 - Conditional Firm eligibility, if requested
 - Official Cluster Study Report
 - Election Form to identify how the customer wants to proceed with each TSR
 - For TSRs requiring no transmission upgrades, includes service offers



TSEP – Cluster Study Closeout

- For TSRs requiring upgrades, Customer must initially respond on election form with an intent to proceed
- Based on election form results, BPA will tender next-step agreements such as:
 - Preliminary Engineering Agreement (PEA)
 - Environmental Study Agreement (ESA)
 - Third-Party Notices
 - Conditional Firm Offers
- The Cluster Study Report is available to interested parties [by request](#)



TSEP – Financial Requirements

- BPA Transmission Planning organization determines if a project is needed for reliability or commercial purposes
- If reliability, BPA funds engineering and environmental review, and the costs of construction
 - All costs included in embedded transmission rates
- If commercial, customer funds preliminary engineering and environmental review. BPA funds the construction, and the customer provides collateral for its share of the build costs, which is then reduced over the term of their service.
 - Final rate could be embedded or an incremental rate, based on whether costs are below or above BPA's embedded rate
 - Incremental rate would require a rate case



Questions?



Appendix – Glossary of Terms

- **ESA** – Environmental Study Agreement, a contract offered to customers describing the scope and cost estimates of required environmental analysis work
- **LT ATC** – Long-Term Available Transfer Capability, transmission capacity not currently encumbered for executed Long-Term TSRs in the 13 month to 10 year time horizon
- **OASIS** – Open Access Same-Time Information System, an internet-based system for obtaining services related to electric power transmission
- **PEA** – Preliminary Engineering Agreement, a contract offered to customers describing project scoping and cost estimates
- **PTDF** – Power Transfer Distribution Factor, the incremental change in real power that occurs on transmission lines due to a change in power transfer
- **TSR** – Transmission Service Request, a request for physical capacity rights from a transmission-owning utility

