



Grid Access Transformation Future State Workshop

August 19, 2026



Agenda

- Planning Process & Definitions
- Expansion Planning
- Commercial Planning
- Accelerate Expansion
- RAPID
- GERP



Planning Process & Definitions

Pat Rochelle

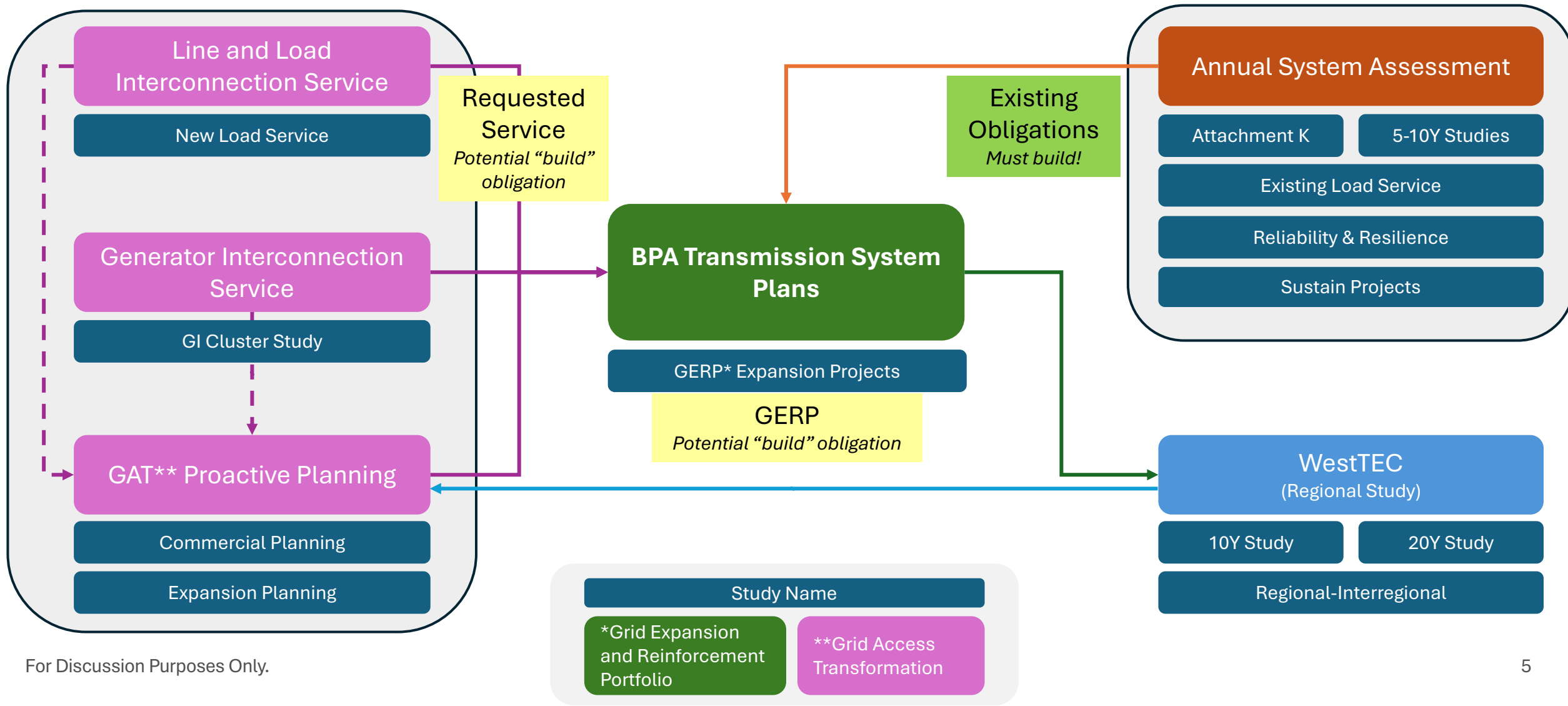
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Terms and Context

Term	Context
Transmission Planning	A general organizational approach to evaluating future needs in light of current obligations and forecasted obligations, regional needs and/or commercial opportunities.
Transmission Study	A functional process assessing an established data set that results in recommendations for the FCRTS and/or affected systems in the form of a study report.
Transmission Plan	A defined set of actionable items to reinforce and/or expand transmission facilities whether to serve load, generation or enable additional commercial capacity.
Transmission Subgrid	• Business Practice glossary: “Any facilities on the interconnected transmission system that do not, by themselves, make up one of the monitored constraints...” • Any part of the FCRTS that is not yet defined under a managed constraint. Examples of “subgrid” can be found posted to BPA’s external site. The definition does not apply to a specific facility voltage and can include 500 kV facilities.

BPA Planning and Obligations



BPA Planning Study Matrix

Study Name	Driver	Frequency	Plan of Service Considerations	Subgrid Considerations	Load Forecast Considerations
CFS Transition Study	TC-27	One-time only to transition to Future State	No	Yes	No
System Assessment	Attachment K (Tariff) & NERC TPL Reliability Standards	Annual	Yes	The study will identify Corrective Action Plans to address system deficiencies.	Uses Agency load forecasts
Transition Generator Interconnection Cluster Study	TC-25 Settlement Tariff, Attachment R & L	One-time only in two phases to transition to the resultant study process	Yes	Yes	Uses Agency load forecasts
Generator Interconnection Cluster Study	OATT Attachment L	Anticipated to be 3 years+ per cycle	Yes	Yes	Uses Agency load forecasts
Line & Load Interconnection Study	OATT Part 2 & 3	Two+ years (FES @ 6 mo., SIS @ 6 mo., FAS @ 12 mo.)	Yes	Yes	Responding to load forecasted involved in the line & load request
Expansion Planning Studies	GAT Proactive Planning	10-year & 20-year studies: $\approx$ 2 years	No	Not exhaustive consideration	Yes
Commercial Planning Studies	Tariff	TBD	Yes	Yes, complete plan of service from POR to POD	Uses Agency load forecasts
Load Area Reinforcement Study (LARS)	Comprehensive local load area planning information.	Anticipated to be conducted biennially as resources are available.	No, "Preliminary" plan of service only	Yes	Yes



Expansion Planning

Jonathan Young

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Current Status Updates

- New Lead: Jonathan Young
- General Updates
 - 10-Year Baseline Study Data Development
 - Data Submittals

Fall Workshop | Planned Agenda

- 10-year Baseline Study Status
 - Data Set Updates
 - Status of 10-year Baseline Case Evaluation
- Baseline/Scenario Study Plan
 - List of Major Drivers
 - Scenario Recommendations and Discussion
 - Sensitivity Recommendations and Discussion
 - Needs Analysis
 - Project Identification and Evaluation Processes
- 20-year Data Set Collection



Commercial Transmission Planning

Chris Gilbert

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Agenda

- Commercial Transmission Planning Defined
- Opportunity Overview
- Goals
- Next Steps

What Is Commercial Transmission Planning?

- Commercial transmission planning is a recurring process and underlying business model to provide Long-Term Firm (LTF) Transmission Service, including Conditional Firm Service (CFS), on BPA's network.
 - Formerly known as the Transmission Service Request (TSR) Study and Expansion Process (TSEP)



Opportunity Overview

Commercial Transmission Planning



Opportunity Overview

- Several factors hinder BPA's Commercial Transmission Planning, including:
 - A significant increase in LTF TSRs – non-speculative, speculative, incomplete.
 - Unprecedented load growth.
 - Queue order requirements.
 - Resource constraints.
 - Disconnected queue processes across multiple queues.
 - Financial risk and creditworthiness standards and processes to support significant transmission expansion.
- As a result, capacity allocation and financials assurance for expansion projects does not fairly distribute risks and benefits, capacity is earmarked for speculative requests, the size of the queue is overstated, and customers are forced to operate under prolonged uncertainty.

Components of the Opportunity Overview

- **Strict Adherence to Queue Priority**
 - Adherence to current requirements for first-come, first-served queue processing has enabled speculative, immature projects to clog the transmission request queue. This prevents requests ready to take service from securing capacity.

Principle: Prioritize Readiness Over Strict Adherence to Queue Priority

The Commercial Transmission Planning process should prioritize LTF service based on demonstrated commercial, financial, and technical readiness over a strict chronological “first-come, first-served” model.

Components of the Opportunity Overview

- **Load Serving Entities (LSE) Minimum Bid Requirement(s)**
 - A minimum requirement to participate in Requests for Proposals (RFPs) for resource acquisition is for the bidding resource to bring LTF or CFS, increasing speculation in BPA's transmission queue.

Principle: Mitigate Planning Impact of LSE Minimum Bid Requirement(s)

The Commercial Transmission Planning process should align procurement eligibility requirements between LSEs and Transmission Providers to ensure that bidding processes do not drive artificial queue inflation, allowing transmission planning resources to focus on infrastructure needs rather than speculative demand for capacity.

Components of the Opportunity Overview

- **Disconnected Queue Processes and Management**
 - A lack of queue integration contributes to fragmented queue management, suboptimal analysis, redundant efforts, and extended delays.

Principle: Integrate Planning Queues/Studies to the Degree Possible

The Commercial Transmission Planning process should decrease speculative requests entering the study phase and contribute to integrated studies across the disparate queues, thereby reducing the overall Commercial Transmission Planning cycle time.

Components of the Opportunity Overview

- **Outdated Financial Risk Standards**
 - BPA's current standards do not require sufficient financial commitments or include the financial viability of customers necessary to share the financial risk to support major, capital-intensive transmission expansion.

Principle: Align Financial Standards to Commercial Transmission Risk

The Commercial Transmission Planning process should ensure the funding commitments needed for transmission service and major capital-intensive transmission builds are backed by financially viable transmission service requestors.

Components of the Opportunity Overview

- **Business Model to Support Shifting Regional Goals**
 - Business model requires adaption to a new future state landscape.

Principle: Business Model Supports Regional Goals

Customers who drive cost increases or draw benefit from the expansion projects should contribute to their funding, protecting BPA and its rate payers from undue financial risk.



Goals

Commercial Transmission Planning



Initiative Goals

Concept	Goal
End-to-End Capability	Reestablish BPA's capability to manage and process the LTF Transmission Queue.
Timely Plan of Service (POS)	Establish a sustainable & scalable process for identifying a TSR's Plan of Service.
Risk Discernment	Align BPAT financial and credit standards with the realities of modern transmission expansion.
Most Ready	Allocate capacity from Plans of Service to requests determined "most ready" for service.
Cost Allocation	Establish a risk-informed business model for bearing financial costs across users of the Transmission system.
Enabling Service	Enable timely LTF service (Conditional or Firm) to requests most ready to take service.
OATT and BP Changes	Align BPA OATT to evolving industry best practices ensuring consistency across the industry.

Next Steps

- Please provide your Commercial Transmission Planning feedback on each of these areas.
 - Which of these problems and/or goals are most important to you?
 - Are there other significant problems and/or goals we may have missed?
 - Please submit comments to techforum@bpa.gov by COB on September 2.
 - Subject Line: Commercial Planning



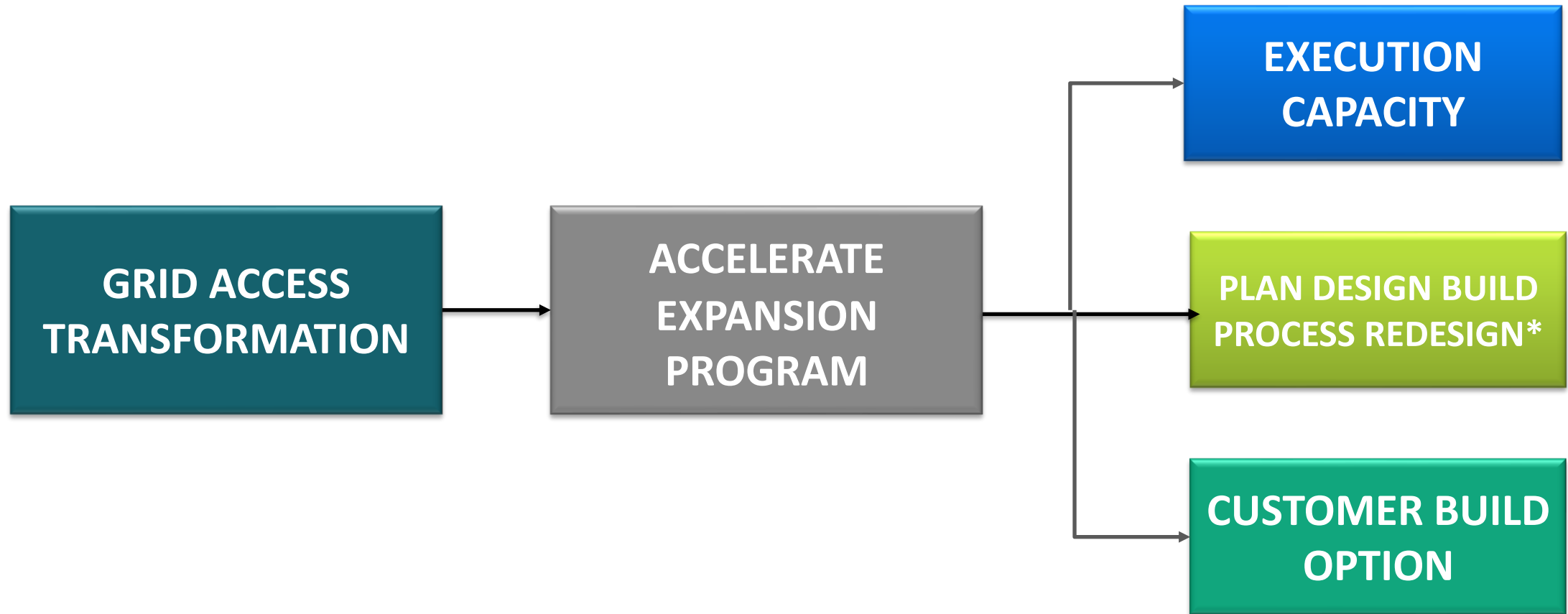
Accelerate Expansion

Ivy Tyson

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Accelerate Expansion Workstreams



Customer Build Option - Scope

Scope includes:

- A standardized process for customers to design, procure, and construct transmission equipment and facilities that BPA will own and operate to enable customer requests for service

Not In-Scope:

- Planning Studies & Plan of Service Development

Technical Requirements

- BPA design standards, material/equipment specifications and construction standards must be met
 - Ensures that assets meet the same level of reliability, safety and maintainability as existing assets
- BPA will retain certain aspects of a project. Examples are:
 - Inherently Governmental Functions
 - Work in Control Centers
 - RAS
 - Telecom Circuit Design

Customer Build Option Timeline

- By Spring 2027: Customer Workshops to inform Business Practice development
- By Summer 2027: Proposed Business Practice Stakeholder Meeting/s
- By 9/30/27 Business Practices are Published

Timeline & Progress





RAPID

Rapid Access Products & Interconnection Delivery

Rebecca Fredrickson and Kevlyn Baker

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Why We're Here

Customers are seeking solutions that are not tied to limited system capacity to integrate large load quickly into the grid

Two focuses:

- New/Improved Load Integration
- New Products/Services to support that rapid integration



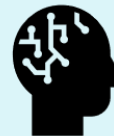
Speed to Power

New and improved processes to fast-track interconnection



Co-location

Load sited with generation, integrated reliably



Large Loads

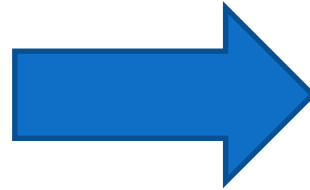
Rapid growth, primarily data centers

The Gap RAPID closes

TODAY

Immediate market demand

Large loads need interconnection solutions now, but today's processes weren't built for this pace or scale



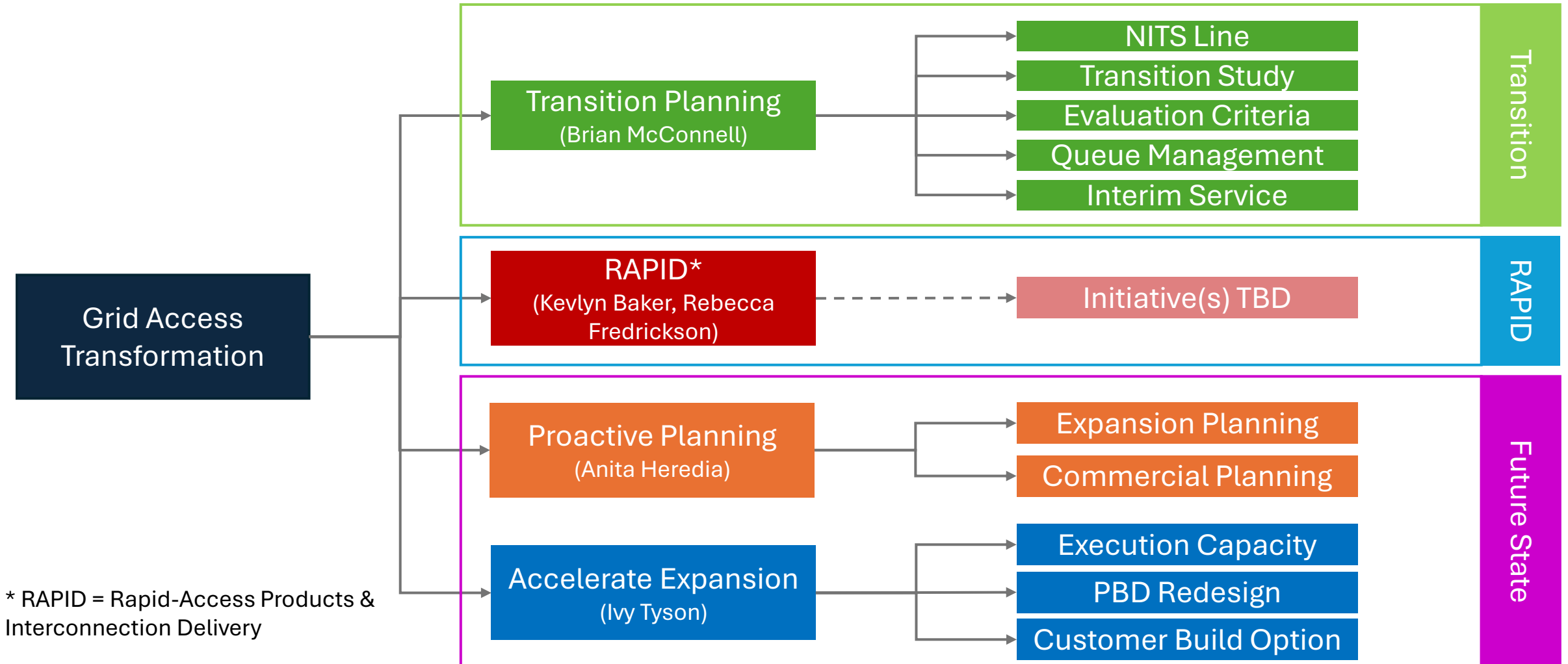
THE FUTURE STATE

Long-term build out

GERP projects and future transmission projects (yet to be identified via Proactive Planning) will expand the system over time.

RAPID bridges the gap: bridge products for interconnection today, plus forward-thinking policies and products that fully subscribe generation and load to the builds considered in proactive planning.

Place within GAT



Objective

An agile, cross-functional policy and product-design unit — a standalone program within the Grid Access Transformation portfolio.



Deploy fast tracked products and services

Interconnection products, and services designed for speed to power



Enforce strict cost causation

Rapid load growth must not financially burden existing, non-causing rate payers



Looking beyond the traditional TSR model

Offer products not tied to existing products — with cost causation built in for the future state.

Load Interconnection

A comprehensive framework for a Load Interconnection Product — built for new and growing loads, including computational load.



LLI Process Reform

Modernize the line & load interconnection process — benchmarking industry, integrating large loads, and evaluating whether study timelines can be reduced.



Fast Track via Co-location

A reliable interim path for large loads co-located with generation, while broader system expansion is constructed.



Behind-the-Meter Evaluation

Evaluate the generation levels and physical configurations BPA can allow — maintaining reliability and shielding normal ratepayers from rate impacts.



Dispatchable/Interruptible Load

Evaluate feasibility of large dispatchable load for system events and curtailments; explore products and matching rate design.

Next Steps

We need your comments:

- **Interconnection Needs:** Where do today's LLI processes slow you down?
- **Co-location:** Appetite in this temporary interconnection service to fast track and non-firm service?
- **Product design:** Which fast-track paths – co-location, BTM, dispatchable – fit your projects?

Products--Future

As the industry evolves with approaches of how to balance fast large load growth and protect all ratepayers from large cost shifts, BPA is going to adopt approaches to balance this risk as well.

Principles:

- Products are developed to ensure appropriate cost recovery and risk to repayment in a timely manner
- Explore product approaches that support regional growth needs and ensures the greatest need projects are built
- Strive to align with FERC direction for the industry changes



Grid Expansion & Reinforcement Portfolio

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Grid Expansion and Reinforcement Portfolio

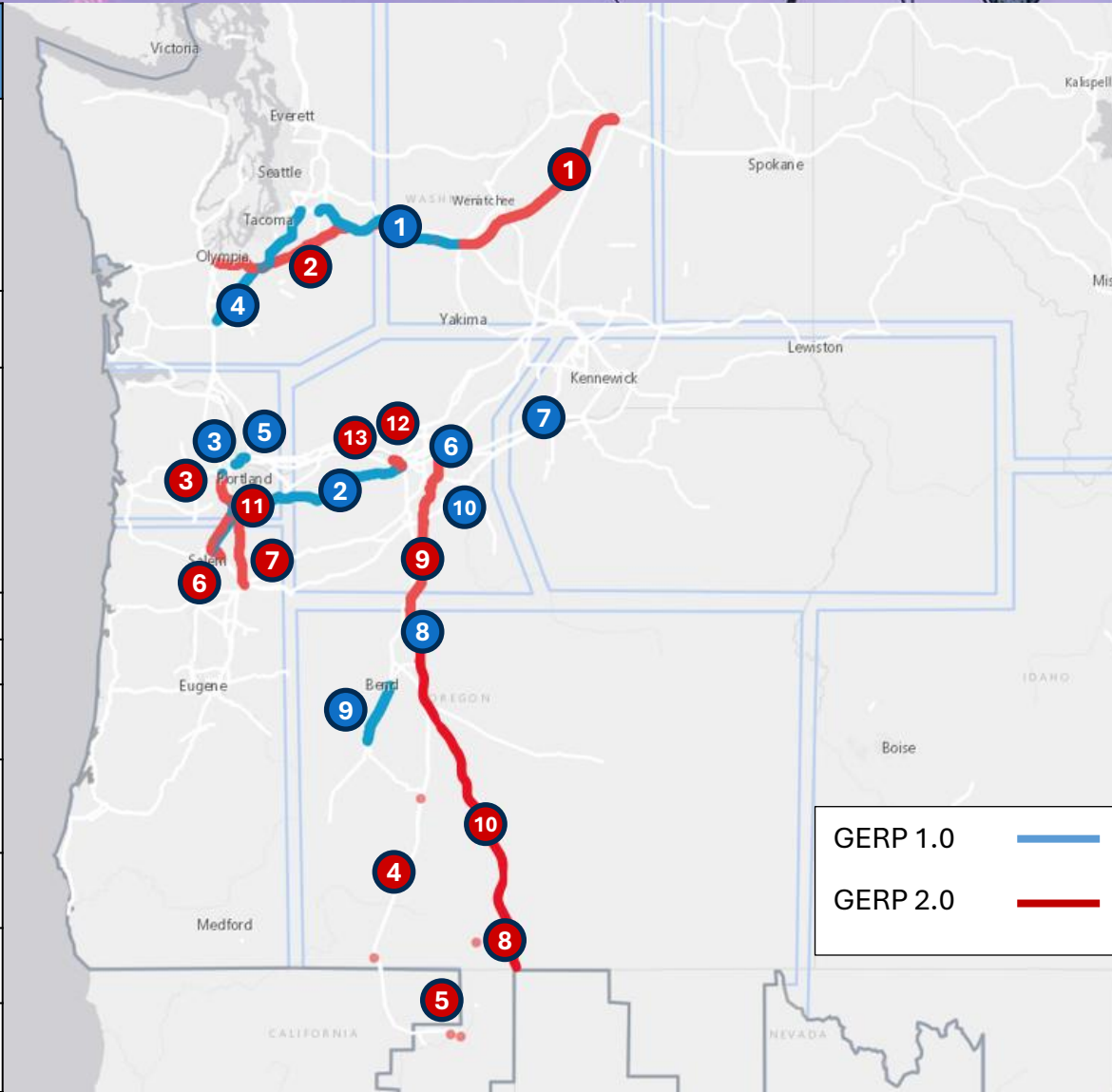
- In 2023 and 2024 BPA announced over 20 new transmission line and substation projects, totaling over \$6.7 billion in estimated costs, which will help improve transmission capacity and reliability throughout the Northwest.
- These expansion projects, previously referred to as Evolving Grid projects, have been rebranded to the Grid Expansion and Reinforcement Portfolio (GERP) to reflect the expanded scope and purpose of the work.

[Grid Expansion and Reinforcement Portfolio \(GERP\) - Bonneville Power Administration](#)

GERP 1.0 & 2.0 Map

GERP 1.0

1	Cross Cascades North Upgrades - Schultz-Raver 500 kV Line Upgrade - Paul 500 kV Substation Upgrade - Olympia 230 kV Substation Upgrade
2	Big Eddy-Chemawa 230/500 kV Line Upgrade
3	Portland Area Upgrades - Pearl-Sherwood McLoughlin 230 kV Line Upgrade - Keeler-Horizon 230 kV Line - Keeler 230/500 kV Transformer Addition
4	Chehalis-Covington 230 kV Line Upgrade
5	Ross-Rivergate 230 kV Line Upgrade
6	Rock Creek-John Day 500 kV Line Upgrade
7	Six Mile Canyon 230/500 kV Substation (New Construction)
8	Bonanza 230/500 kV Substation (New Construction)
9	La Pine-Bonanza 230 kV Line (New Construction)
10	Buckley 500 kV Substation Rebuild



GERP 2.0

1	Grand Coulee-Columbia-Schultz 500 kV Line Upgrade
2	Schultz-Olympia 500 kV Line Upgrade
3	North of Pearl Upgrades
4	Central Oregon 500 kV Dynamic Reactive Upgrades
5	Hilltop & Warner Reactive Additions
6	Salem Area Upgrades #1 (North of Marion)
7	Salem Area Upgrades #2 (North of Marion)
8	NOB Substation (New Construction)
9	Lower Columbia-Bonanza 500 kV Line (New Construction)
10	Bonanza to NOB 500 kV Line (New Construction)
11	Ostrander-Pearl 500 kV Line Upgrade
12	Big Eddy-Quenett Creek Upgrade
13	Big Eddy-The Dalles Line Rebuild

GERP Estimated Completion

Project	Estimated Completion								GERP ?	\$\$
	2026	2028	2029	2030	2031	2032	2033	2035		
Pearl-Sherwood-McLoughlin 230 kV	2026								1	\$ 30,000,000
Chehalis-Covington 230 kV		2028							1	\$ 73,000,000
Six Mile Canyon Substation		2028							1	\$ 250,000,000
Buckley Substation			2029						1	\$ 150,000,000
Keeler 230/500 kV Transformer				2030					1	\$ 150,000,000
Rock Creek-John Day 500 kV				2030					1	\$ 109,000,000
Ross-Rivergate 230 kV					2031				1	\$ 46,000,000
Bonanza Substation 230/500 kV					2031				1	\$ 615,000,000
Big Eddy-Quenett Creek 230 kV					2031				2	\$ 10,000,000
Hilltop-Warner Reactive					2031				2	\$ 90,000,000
CCN Upgrades						2032			1	\$ 400,000,000
La Pine-Bonanza 230 kV						2032			1	\$ 150,000,000
Big Eddy-The Dalles 115 kV							2033		2	\$ -
Big Eddy-Chemawa 230/500 kV							2033		1	\$ 844,000,000
North of Pearl							2033		2	\$ 300,000,000
Ostrander-Pearl 500 kV							2033		2	\$ 50,000,000
Central Oregon 500 kV DR								2035	2	\$ 170,000,000
LC to NOB								2035	2	\$ 1,900,000,000
Salem Area Upgrades								2035	2	\$ 250,000,000
GC-Columbia-Schultz 500 kV								2035	2	\$ 330,000,000
Schultz-Olympia 500 kV								2035	2	\$ 860,000,000
Total Estimated Cost										\$ 6,777,000,000

Pre-decisional.

GERP 1.0 Status

Project

Initiation

Scoping

Design

Construction

Closeout

Next Milestone

Cross Cascades
North Upgrades

All 3 components of the upgrades are planned to complete Scoping in spring of 2026.

Big Eddy –
Chemawa 230/500
kV Line Upgrade

Project is planned to complete Scoping in the fall of 2025.

Portland Area
Upgrades

1. Pearl-Sherwood-McLoughlin: Project is in Construction. 2. Keeler-Horizon#2: Energized. 3. Keeler Transformer Addition: Project is in Scoping.

Chehalis-Covington
230 kV Line Upgrade

Project has finished Scoping and is in the process of kicking off Design.

Ross - Rivergate 230
kV Line Upgrade

Project has finished Scoping and will kick off Design later this summer.

GERP 1.0 Status (cont.)

Project

Initiation

Scoping

Design

Construction

Closeout

Next Milestone

Rock Creek – John
Day 500 kV Line
Upgrade

Project has finished Scoping and will kick off
Design later this summer.

Six Mile Canyon
230/500 kV
Substation

Project is in Design with a planned Construction
start in early 2026 with a planned energization in
late 2027.

Bonanza
500/230 kV Sub

Project will complete Scoping later this fall.

La Pine – Bonanza
230 kV Line

Project will kick off Scoping later this summer.

Buckley Sub
Rebuild

Project is in Design. Estimated energization is
2029.

GERP 2.0 Implementation Timeline

	FY	2025			2026				2027				2028			
	Quarter	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Coulee -Columbia-Schultz	Planning	Initiation			Scoping				Authorization				Execution			
Schultz-Olympia	Planning/Joint Study				Initiation		Scoping				Authorization				Execution	
North of Pearl	Planning	Initiation			Scoping				Authorization				Execution			
Central OR Dynamic Reactive	Planning	Initiation			Scoping				Authorization				Execution			
Warner-Hilltop Dynamic Reactive	Planning	Initiation			On Hold											
North of Marion #1	Planning	Initiation			Scoping				Authorization				Execution			
North of Marion #2	Planning	Initiation			Scoping				Authorization				Execution			
Ostrander - Pearl Upgrade	Planning	Initiation			Scoping				Authorization				Execution			
Big Eddy - Quenett Creek Upgrade	Planning	Initiation			Scoping				Authorization				Execution			
NWPUD Big Eddy - The Dalles	N. Wasco Customer Study								Authorization				N. Wasco Execution			
Lower Columbia - Bonanza	Planning	Initiation			Scoping				Authorization				Execution			
Bonanza - NOB	Planning/Joint Study				Initiation		Scoping				Authorization				Execution	
NOB Substation	Planning/Joint Study				Initiation		Scoping				Authorization				Execution	

Key Milestones/Activities	Studies	PID	Kickoff Meeting	SOW	SCM Phase 0	BC Development Rate Analysis		
	Preliminary PRD		SGO Approval		SCM Phase 1	BC Approval	SCM Design/Construction	
	Planning	Initiation		Scoping		Authorization		Execution

GERP Interactive Map

- New info layers have been added
 - ✓ Utilities
 - ✓ IOUs
 - ✓ WestTEC
- Certain layers have been updated
 - ✓ Interconnection
- Project details continue to be updated
- Filter & search functions





Conclusion

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Next Steps

- Comments
 - Please submit to techforum@bpa.gov by COB on September 2.