BPA GAT Reform Process

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“Let’s Talk About TX Reform”

Driving the Pace of Decarbonization in the PNW

Intro: BPA GAT Reform Process

Acknowledgement of BPA Efforts
NewSun Energy recognizes BPA's initiative to modernize the transmission system through the Grid Access Transformation program.

Initial Proposal Fundamentally Unworkable
Fails multiple major tests for minimum necessary conditions: Inconsistent with Project Finance / IPP needs + reliable load; inherently discriminatory; uninvestable; inconsistent w/ power marketing & trading needs; numerous unaddressed fatal flaws, etc.

Time & Process Fundamentally Inconsistent with Complexity & Consequences – Consequential Scenarios Require Deep Examination.

- S/T inventory consequences -> Power Marketing / Daily Impacts?
- Discriminatory treatment also may pick losers & bad investments
- Increasing costs likely discourages cost-sharing, burdens publics
- Queue short-cuts sabotage future investment
- etc

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Agenda: NSE

- Overview of Select Issues – Which Should Inform Path & Process & Solutions
- Starting Point: What We've Learned from the Last "Mega TSEP"
- Core Principles
- Recommendations
- Load Growth, need for Transmission not going away
- Lessons Learned from past TSEP process and Evolving Grid
- Conclusion

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Some Issues & Context – Further Discussed Below

- **Initial Observations**
  - Process + Starting Points
  - Complexity, Fatal Flaws, & Missing Analyses
  - Major Missing Primary Stuff + Minimum Standards
  - Examples + Time Needed
- **Starting Points**
  - Vis-à-vis: 2022/23/24 TSEP Study + Evolving Grid Projects
  - Crystal Ball: Needs + Upgrades + Customer Behaviors
- **"*Everything Everywhere All At Once*" Simplifies Some Things**
- **Recommendations:** Low-Hanging Fruit, Tools, Pragmatism
- **Principles:**
  - Fairness, Non-Discriminatory,
  - Keep Moving, Bounce-Testing before Buying,

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Initial Observations

- We Know A Lot Already: Last “Mega TSEP” = Good Crystal Ball
- Process Jumped the Gun - So Reset Good (and Why)
- Major Missed Issues – Should Also Provide Some Pause & Humilty
- Complexity Inescapable due to Nature of System
- Fatal Flaws
- Missing Analyses
  - Major Missing Primary Stuff + Minimum Standards
  - Examples + Time Needed

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What We Know From Last TSEP

- All the Upgrades
- When Upgrades begin being needed
- Where Upgrades are needed (paths + POD/POR combos)
- How Many Upgrades Benefit How Many Users + Need Types
- What is Different from Last TSEPs – Important!
- How Customers React to New PEA
- Timelines for Most Everything & Anything
- Everything is Major, Everywhere, and Broadly Benefitting
- Everything is Gonna Take a LONG, LONG TIME.

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Major Missed Issues

- **Project Finance Needs**
- **Inefficient Use of System Amplifying Effects**
- **Potential to Drive Users (and $$) Away**
- **Impacts on Traders**
- **Elevating Bad/Hard Requests Over Good Requests/Timelines**
- **Harm to LSEs Futures & Abilities to Control/Protest Futures**
- **Timeline Realities (LONG!) vs. Commercial Realities.**
- **Inherent Discriminatory Nature of Comm. Readiness for PTP**
- **Backfeeds vs. Short-Term**

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Path Forward: NSE Recommendation

Protecting Regional Investments and Ensuring Investability
Most regulatory changes build on existing decisions and seek to avoid obsoleting previous investment. Retroactive changes create massive instability, financing problems, and ultimately increased costs for the region.

Facilitate Investments
The region needs to safeguard investments made under the current transmission request rules. If these changes are applied retroactively and affect existing investments, what does that tell the market about future investments?

Avoid Retroactive Changes
Retroactive policy changes disrupt the region with consequences threatening investment confidence in the region. Creates less diversity and causes undue harm.

Ensure Equitable Treatment
Fair deposit and validation rules apply to all transmission customers, regardless of the source of financing.

Transition Planning
Request for a clear transition plan to honor TSRs and protect existing investment during the change to the future state model. Present the future state model to entities before they decide on transition offers. CRC should not be applied to transition offers.

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Path Forward: NSE Recommendations

Transition Product

Process requests for offers based on the queue order of requests. Further discussion is needed from BPA on how many MWs can be offered and whether BPA can make those offers without a study. Not appropriate to add CRC to the transition offer product.

Transition Product Structure

A conditional product with a path to LT firm and roll-over rights. Based on BPA analysis of what can be offered and what the curtailable nature of that product offering is.

- What happens if those offers are not accepted?
- These offers must preserve Open Access and System Flexibility for all OATT-compliant entities (IPPs, ESS, LSEs, marketers, PUDs, IOUs, COUs, NLSLs)

Key Aspect for the future

The ability to redirect (LT and ST) is how the system operates efficiently. It is needed to ensure that loads, resources, and market liquidity are provided to the region. It is how we maintain reliability on the system to serve loads, meet compliance and structured market obligations, and manage ancillary service demand.

- It is essential, until a full RTO/ISO is up and running, to balance intermittent resources and loads with dispatchable generation to fill the gaps. LT planning cannot create a less efficient system at this point for the region.

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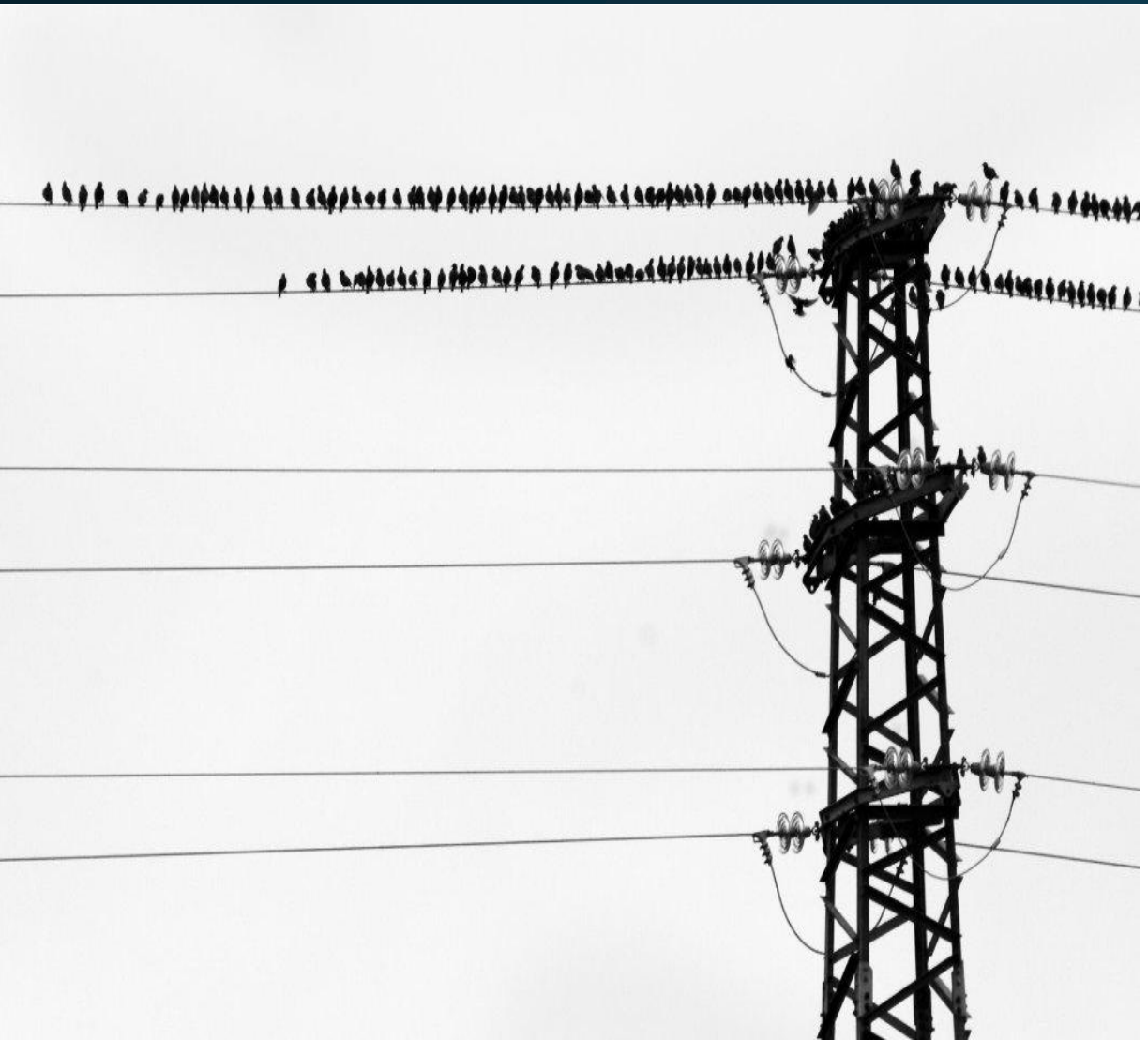
Key Challenges in Transmission Reform: Transmission Requestability “Open Access”



Risk of Limiting Flexibility

Restricting transmission requests to market hubs or predefined transactions reduces critical service flexibility and system optimization opportunities.

Regional Flow Efficiency

Blocking requests between smaller substations, like Buckley to Yakima, limits efficient power routing and regional connectivity.

Support for System-Wide Requests

Maintaining the ability to request transmission service from any point preserves flexibility and enables better regional power distribution. Supports multiple uses, business models, and needs from the Grid.

Preserving Redirectability and Reassignment

Preserving transmission rights’ redirectability and reassignment ensures versatility and transferability in power transmission services.

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Key Challenges in Transmission Reform: Retroactive Change, CRC, Open Access

Concerns About Transmission Neutrality

BPA's initial proposals would compromise the neutrality of the transmission system by arbitrating which commercial investments are valid or not.

Commercial Readiness Criteria

BPAT's GAT process must comply with open access principles and statutory obligations. CRC does not align with open access transmission.

Ensuring Non-Discriminatory Access

BPA must clarify measures to provide fair access to transmission customers, including IPPs, marketers, and utilities. The validity of a business model is not a BPA function.

Request for Analysis

Facilitate discussion based on BPA analysis and process. How does this impact existing requests? What behavior is expected based on these changes? This creates clarity of choice and accountability for decisions.

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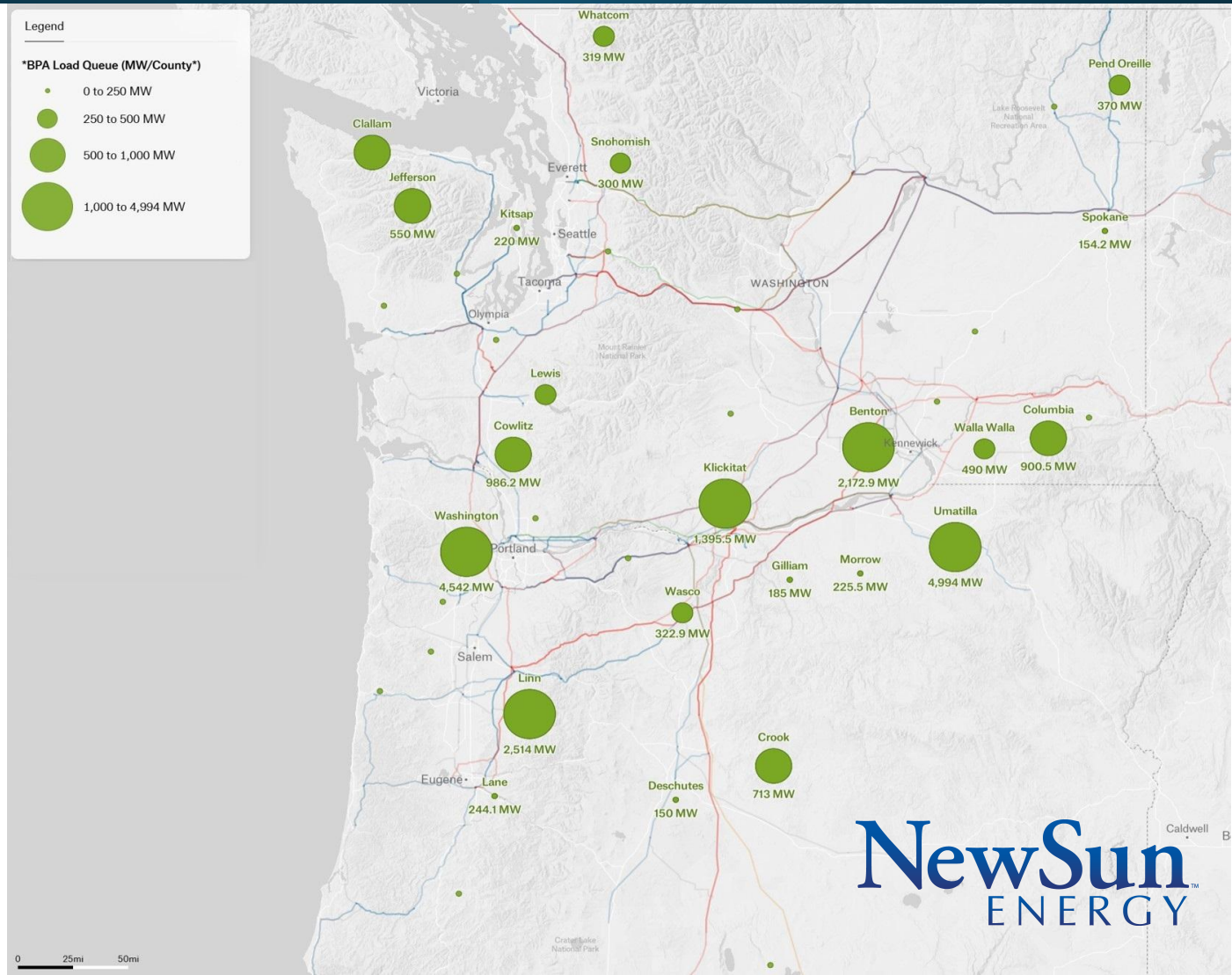
LOAD GROWTH: Not the Time for Large Transmission Disruptions. We need to Build, Study, and Award.

- **Skyrocketing Electricity Demand**: The Pacific Northwest is experiencing a significant surge in electricity demand, driven by data centers, economic development, and the increasing electrification of various sectors.

- **BPA Challenges**: BPA and the region are struggling to adapt to this rapid increase in demand and compliance program obligations (RPS, Carbon, Capacity). Transmission planning, studies, and disruption to existing encumbrance requests make it difficult to meet the region's growing energy needs effectively.

- **BPA's High Load Requests**: In Washington and Oregon, there are currently **over [25GW] of BPA load requests and 65 MW transmission requests**. This high volume of requests highlights the urgent need for expanded transmission infrastructure and innovative solutions to ensure reliable power delivery.

- **Additional many GW of PacifiCorp & Other LSEs (many of which also take service from BPA, sometimes islanded, like PGE, or PAC's Prineville svc territory)**



Load Growth: Regional Compliance Program Obligations

Table 3 | Average Annual Cumulative Load Growth (MWa) in RPS and non-RPS states in the WECC

Year/State	2030	2035	2040
AZ	1,782	4,595	7,840
CA	6,390	14,594	20,095
CO	477	1,141	1,885
NM	21	41	63
NV	510	1,144	1,870
OR	764	1,852	3,084
WA	633	1,245	1,924
RPS Subtotal	10,577	24,612	36,761
ID*	657	889	1,142
MT*	28	62	97
UT*	551	1,338	2,251
WY*	506	1,208	1,995
non-RPS Subtotal	1,742	3,497	5,485

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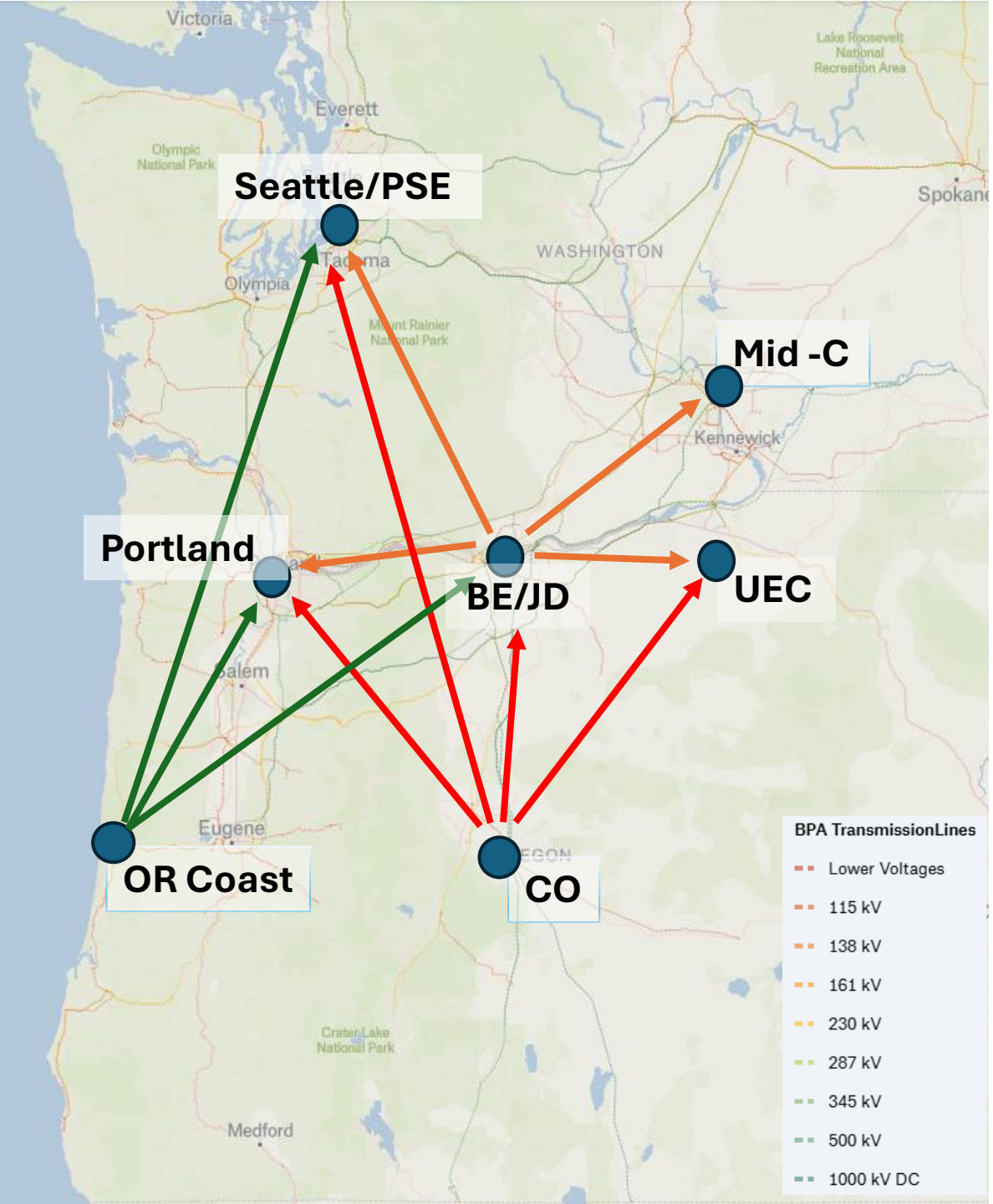
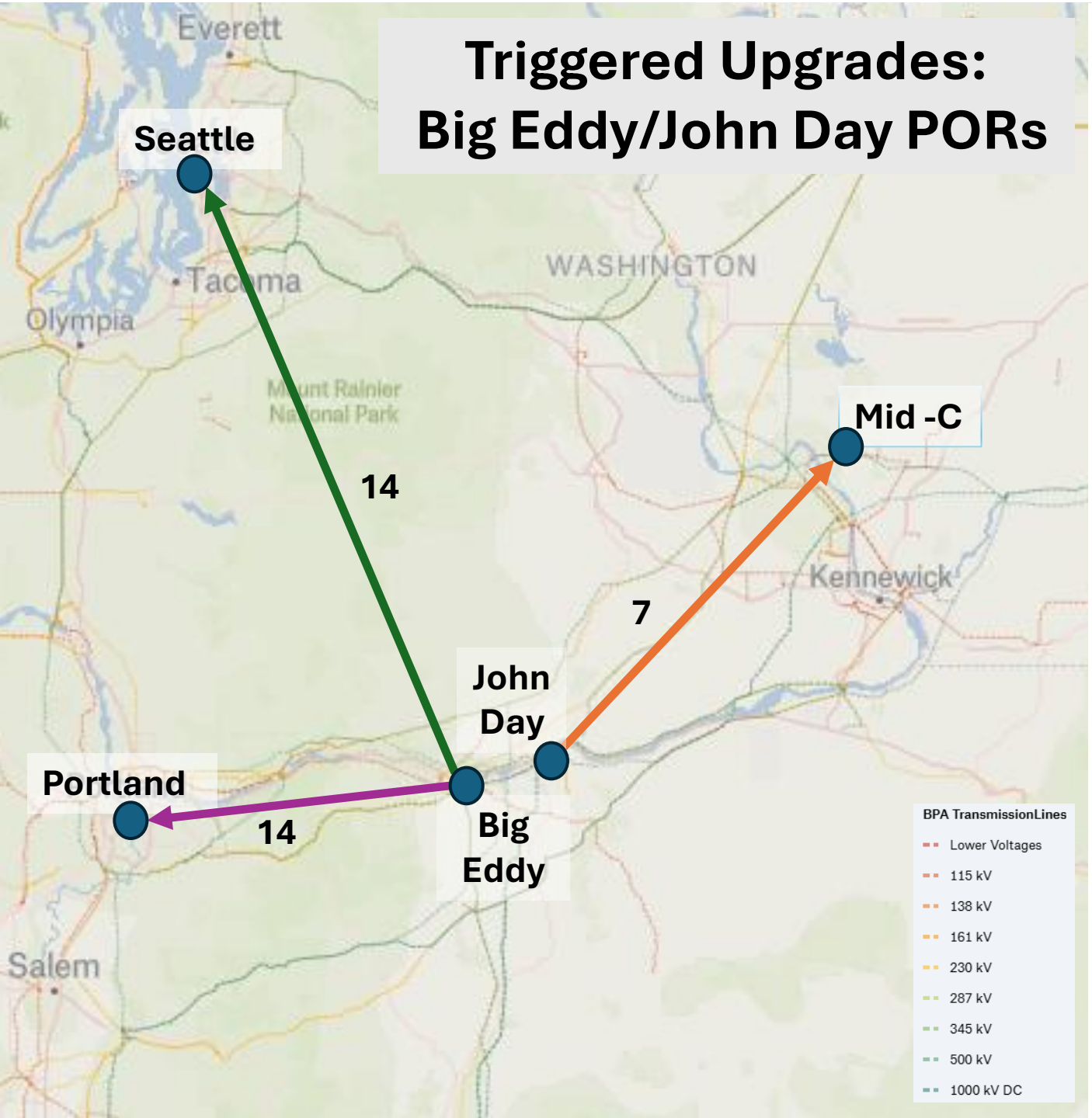


Most Common Upgrades / Constraints (2020–2023 TSEP)

Triggered Upgrade – Percentage of TSRs Requiring Upgrade

1. Pearl-Sherwood-Mcloughlin Reinforcement – ~72%
2. Schultz-Wautoma 500 kV Series Compensators – ~66%
3. Schultz-Raver #3 and #4 Series Compensator – ~61%
4. Covington-Chehalis 230 kV Rebuild – ~54%
5. Big Eddy-Chemawa 500 kV Rebuild – ~49%
6. Cross Cascades North Reinforcement – ~45%
7. Impact to Third-Party Transmission System (Portland General Electric: Pearl-Sherwood-Mcloughlin, North of Pearl, North of Marion #1) – ~44%
8. Ross-Rivergate 230 kV Rebuild – ~28%
9. Central Oregon South 500 kV Project – ~24%
10. PSAST (Puget Sound Area Stability Transmission) – ~21%
11. Southern Oregon Coast Reinforcement – ~18%
12. Rock Creek-John Day 500 kV Rebuild – ~17%
13. North of Pearl 500 kV Upgrade – ~15%
14. Impact to Third-Party Transmission System (PacifiCorp) – ~14%
15. Ostrander-Pearl #1 500 kV Rebuild – ~12%
16. North of Marion Upgrade #1 – ~11%
17. North of Marion Upgrade #2 – ~9%
18. Covington 500/230 kV Banks – ~8%
19. Hood River Sub-grid Upgrades – ~7%
20. Impact to Third-Party Transmission System (Intertie: PGE, PacifiCorp, NWACI) – ~7%
21. Schultz-Olympia #1 500 kV – ~6%
22. Inability to expand system to meet requested service term – ~5%
23. WS-RAS Addition – ~4%
24. Boardman-Alkali 115 kV Reconductor – ~3%

Triggered Upgrades: Big Eddy/John Day PORs



Big Eddy/ John Day to Portland:

1. Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Schultz-Wautoma 500kV Series Compensators
4. Ross-Rivergate 230 kV Rebuild
5. Big Eddy-Chemawa 500 kV Rebuild
6. Ostrander-Pearl #1 500 kV Rebuild
7. Pearl-Sherwood-McLoughlin Reinforcement
8. North of Pearl 500 kV Upgrade
9. Hood River Sub-grid Upgrades
10. North of Marion Upgrade #1
11. North of Marion Upgrade #2
12. Big Eddy-Redmond 230 kV Upgrade
13. North of Grizzly 500 kV (S>N)

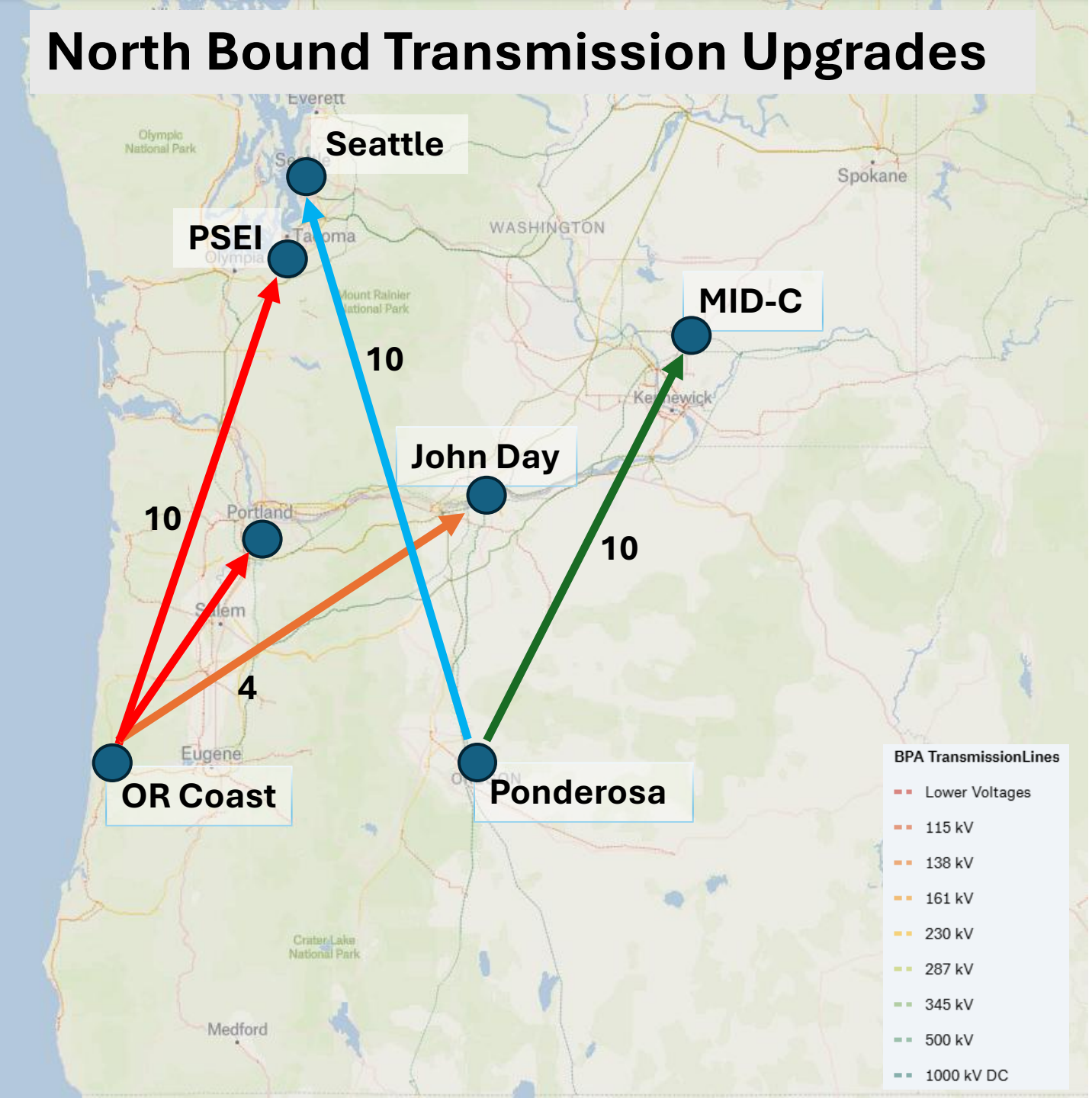
John Day to MID-C Hub: (The BEST / FIRST MW, after which add'l 5-10 builds)

1. North of Pearl 500 kV Upgrade
2. Hood River Sub-grid Upgrades
3. North of Marion Upgrade #1
4. North of Marion Upgrade #2
5. North of Grizzly 500 kV (S>N)

Big Eddy to Seattle/PSEI:

1. Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Covington-Chehalis 230kV Rebuild
4. Schultz-Wautoma 500kV Series Compensators
5. Big Eddy-Chemawa 500 kV Rebuild
6. Ostrander-Pearl #1 500 kV Rebuild
7. Pearl-Sherwood-McLoughlin Reinforcement
8. North of Pearl 500 kV Upgrade
9. Schultz-Olympia #1 500 kV
10. Hood River Sub-grid Upgrades
11. North of Marion Upgrade #1
12. North of Marion Upgrade #2
13. Covington 500/230 kV Banks
14. Central Oregon 500 kV Dynamic Reactive Upgrades

North Bound Transmission Upgrades



OR Coast to PSEI-Covington/PGE:

1. Cross Cascades North Reinforcement
2. Schultz -Raver #3 and #4 Series Compensator
3. Pearl -Sherwood -McLoughlin Reinforcement
4. North of Pearl 500 kV Upgrade
5. Schultz -Olympia #1 500 kV
6. North of Marion Upgrade #1
7. North of Grizzly 500 kV (S>N)
8. Southern Oregon Coast (2022)
9. Southern Oregon Coast 500kV Upgrade #2
10. Covington 500/230 kV Banks

OR Coast to John Day:

1. North of Marion Upgrade #1
2. Central Oregon South 500kV
3. Southern Oregon Coast (2022)
4. Southern Oregon Coast 500kV Upgrade #2

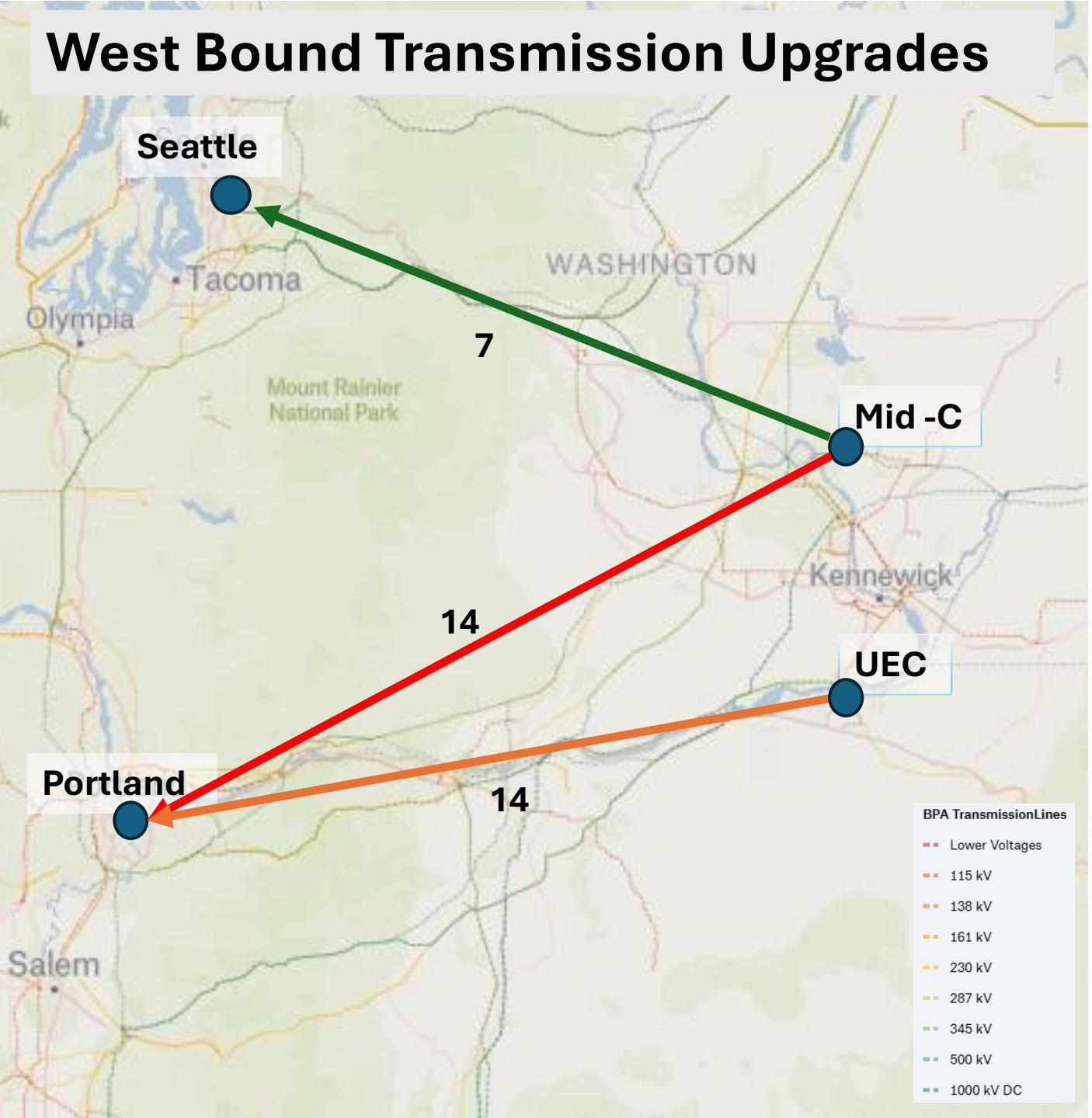
Ponderosa to MID-C:

1. North of Pearl 500 kV Upgrade
2. Hood River Sub-grid Upgrades
3. North of Grizzly 500 kV (S>N)
4. Central Oregon South 500kV

Ponderosa to Seattle:

1. Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Pearl-Sherwood-McLoughlin Reinforcement
4. North of Pearl 500 kV Upgrade
5. Schultz-Olympia #1 500 kV
6. Hood River Sub-grid Upgrades
7. North of Marion Upgrade #1
8. North of Grizzly 500 kV (S>N)
9. Central Oregon South 500kV
10. Covington 500/230 kV Banks

West Bound Transmission Upgrades



MID-C to Portland:

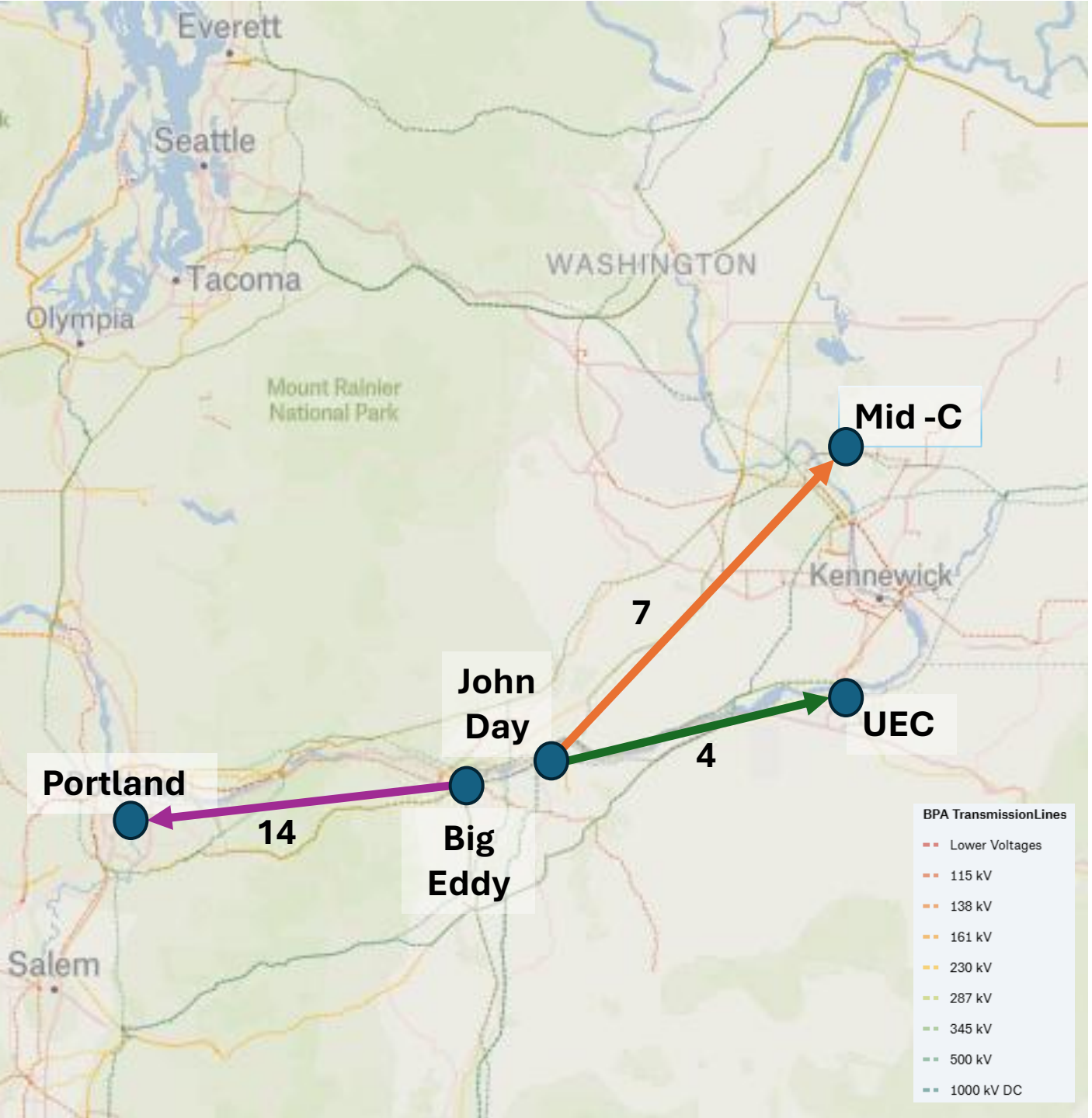
1. Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Covington-Chehalis 230kV Rebuild
4. Schultz-Wautoma 500kV Series Compensators
5. Ross-Rivergate 230 kV Rebuild
6. Big Eddy-Chemawa 500 kV Rebuild
7. Ostrander-Pearl #1 500 kV Rebuild
8. Coulee-Columbia-Schultz 500 kV
9. Hood River Sub-grid Upgrades
10. North of Marion Upgrade #1
11. North of Marion Upgrade #2

UEC to Portland:

1. Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Covington-Chehalis 230kV Rebuild
4. Schultz-Wautoma 500kV Series Compensators
5. Ross-Rivergate 230 kV Rebuild
6. Big Eddy-Chemawa 500 kV Rebuild
7. Ostrander-Pearl #1 500 kV Rebuild
8. Pearl-Sherwood-McLoughlin Reinforcement
9. North of Pearl 500 kV Upgrade
10. Schultz-Olympia #1 500 kV
11. Hood River Sub-grid Upgrades
12. North of Marion Upgrade #1
13. North of Marion Upgrade #2

MID-C(Vantage/Garrison) to Seattle/PSEI:

1.Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Big Eddy-Chemawa 500 kV Rebuild
4. Ostrander-Pearl #1 500 kV Rebuild
5. Schultz-Olympia #1 500 kV
6. Coulee-Columbia-Schultz 500 kV
7. Covington 500/230 kV Banks



Big Eddy/ John Day to Portland:

1. Cross Cascades North Reinforcement
2. Schultz-Raver #3 and #4 Series Compensator
3. Schultz-Wautoma 500kV Series Compensators
4. Ross-Rivergate 230 kV Rebuild
5. Big Eddy-Chemawa 500 kV Rebuild
6. Ostrander-Pearl #1 500 kV Rebuild
7. Pearl-Sherwood-McLoughlin Reinforcement
8. North of Pearl 500 kV Upgrade
9. Hood River Sub-grid Upgrades
10. North of Marion Upgrade #1
11. North of Marion Upgrade #2
12. Big Eddy-Redmond 230 kV Upgrade
13. North of Grizzly 500 kV (S>N)
14. Impact to Third-Party Transmission System (Portland General Electric: Pearl-Sherwood Mcloughlin, Ross-Rivergate, North of Pearl, North of Marion #1)
15. Impact to Third-Party Transmission System (PacifiCorp: Troutdale Bank)

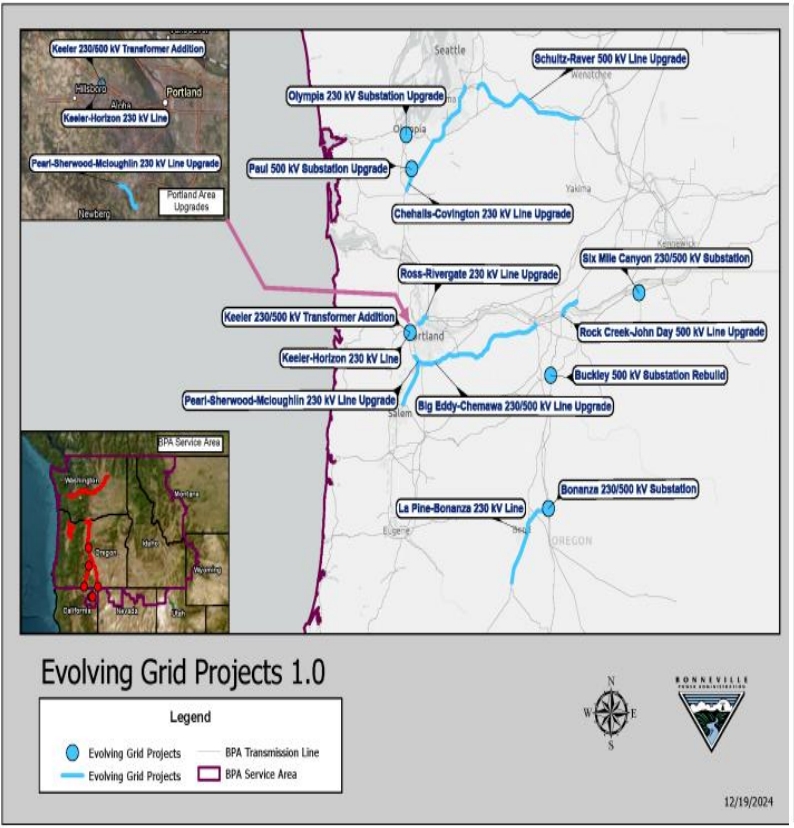
John Day to MID-C Hub:

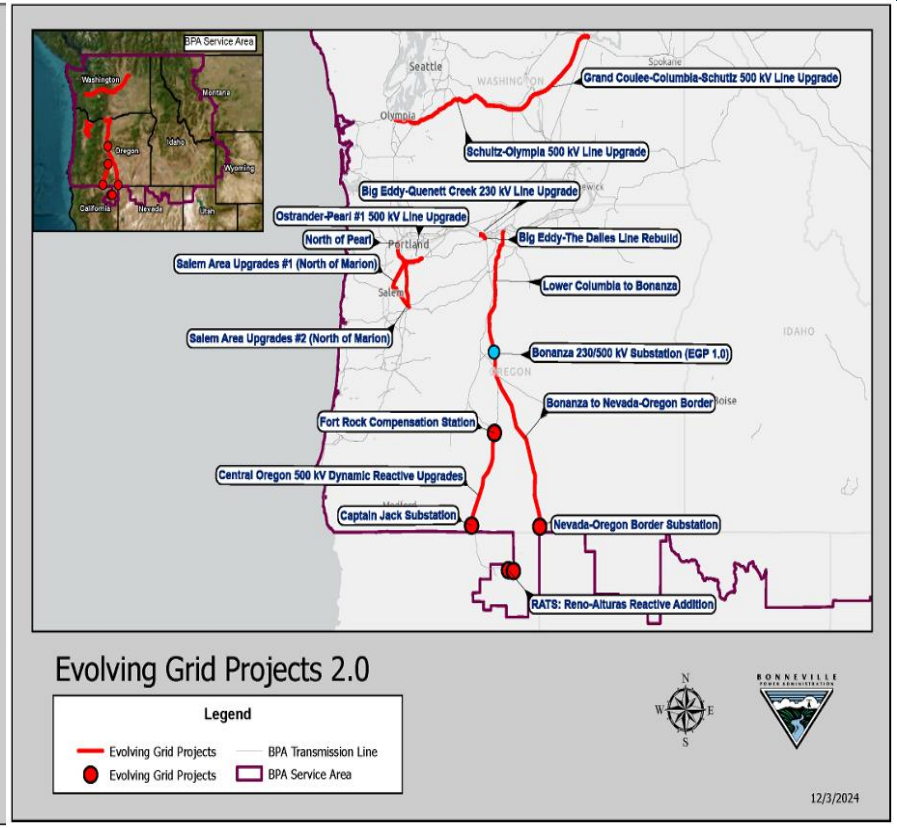
1. North of Pearl 500 kV Upgrade
2. Hood River Sub-grid Upgrades
3. North of Marion Upgrade #1
4. North of Marion Upgrade #2
5. North of Grizzly 500 kV (S>N)
6. Impact to Third-Party Transmission System (Portland General Electric: Pearl-Sherwood Mcloughlin, North of Pearl, North of Marion #1)
7. Impact to Third-Party Transmission System (Intertie: Portland General Electric, PacifiCorp: Grizzly-Captain Jack N>S, Bonanza-Grizzly-John Day S>N)

John Day to MID-C Hub:

1. Hood River Sub-grid Upgrades
2. North of Grizzly 500 kV (S>N)
3. Impact to Third-Party Transmission System (Umatilla Electric Cooperative)
4. Impact to Third-Party Transmission System (Intertie: Portland General Electric, PacifiCorp: Grizzly-Captain Jack N>S, Bonanza-Grizzly-John Day S>N)

Lessons Learned: Evolving Grid Projects





In response to high power demand and transmission requests across the region, BPA is expanding its capacity to meet the need. BPA's Evolving Grid program is designed to modernize and enhance the transmission infrastructure to meet the evolving demands of the energy landscape.

In 2023 $2B in funding was announced for 10 priority projects comprising "Evolving Grid 1.0" = Fast-Tracked + BPA-Funded:

- New Bonanza 230/500kV substation ($300 MM),
- New LaPine-Bonanza #2 230-KV Line ($150 MM),
- New 500/230-KV Sixmile Sub ($250 MM)
- Buckley 230/500-KV Rebuild ($300 MM)
- New 500-KV Line: Big Eddy – Chemawa (Salem/PDX)

In 2024, an additional $3B was allocated for 13 more regional projects, including a new 500kV transmission line from the Columbia River through Bonanza to the Nevada-Oregon border (NOB)

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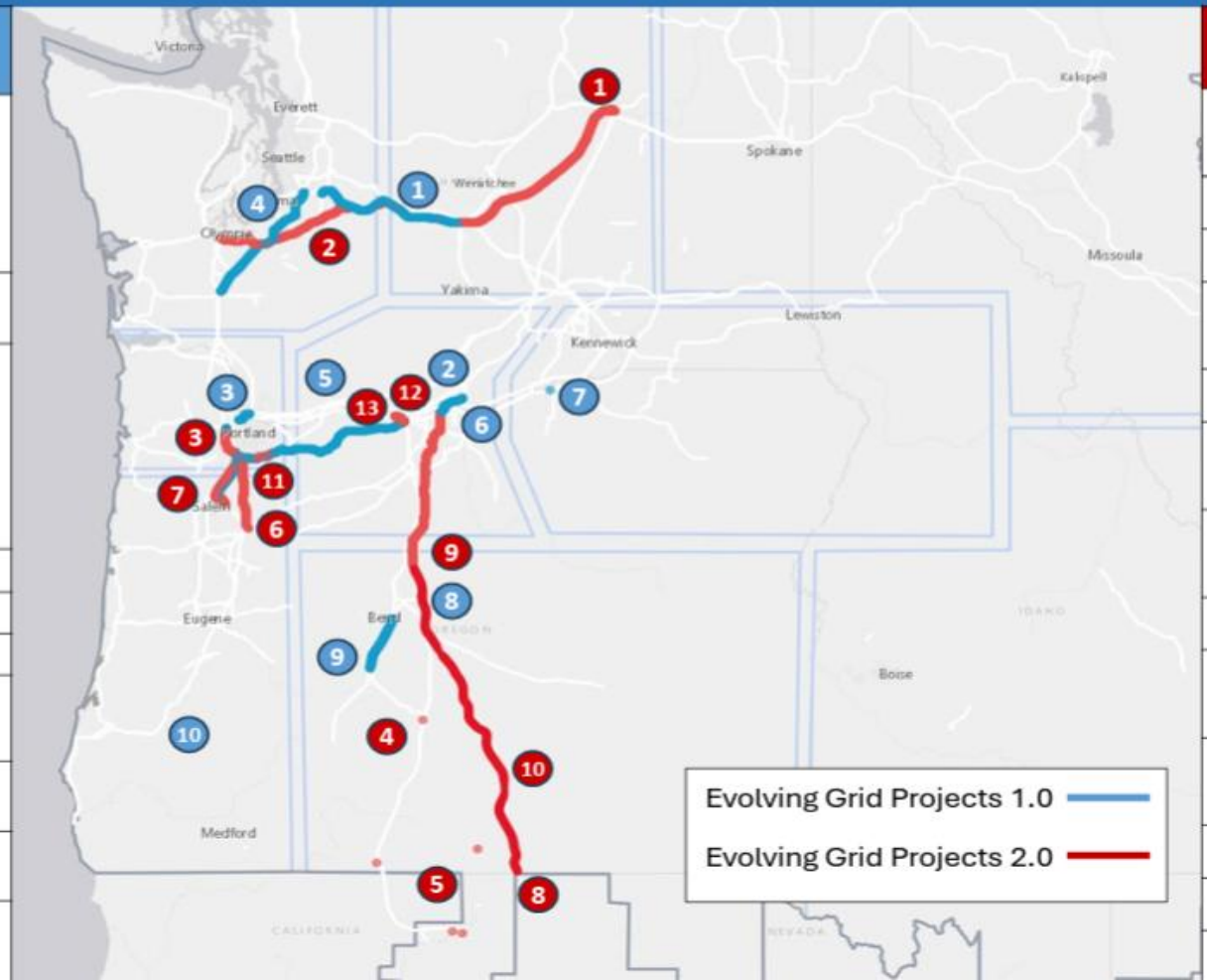
Lessons Learned: BPA Evolving Grid Projects

Evolving Grid Projects 1.0 & 2.0

Evolving Grid 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



Evolving Grid 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	RATS: Reno-Alturas Reactive Addition
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

Lessons Learned: BPA Evolving Grid Timelines

EGP 1.0 Project	Initiation → Scoping → Design → Construction → Closeout	Next Milestone
Six Mile Canyon Substation		Project is nearing completion of Scoping. A feasible site has been selected. Longest Lead Material has been placed on order.
Bonanza Substation		Project started Scoping this fall and planned to finish in summer 2025.
La Pine-Bonanza Line		Plan of Service has been completed and Scoping planned to start in early 2025.
Buckley Substation Rebuild		Project is in Design.

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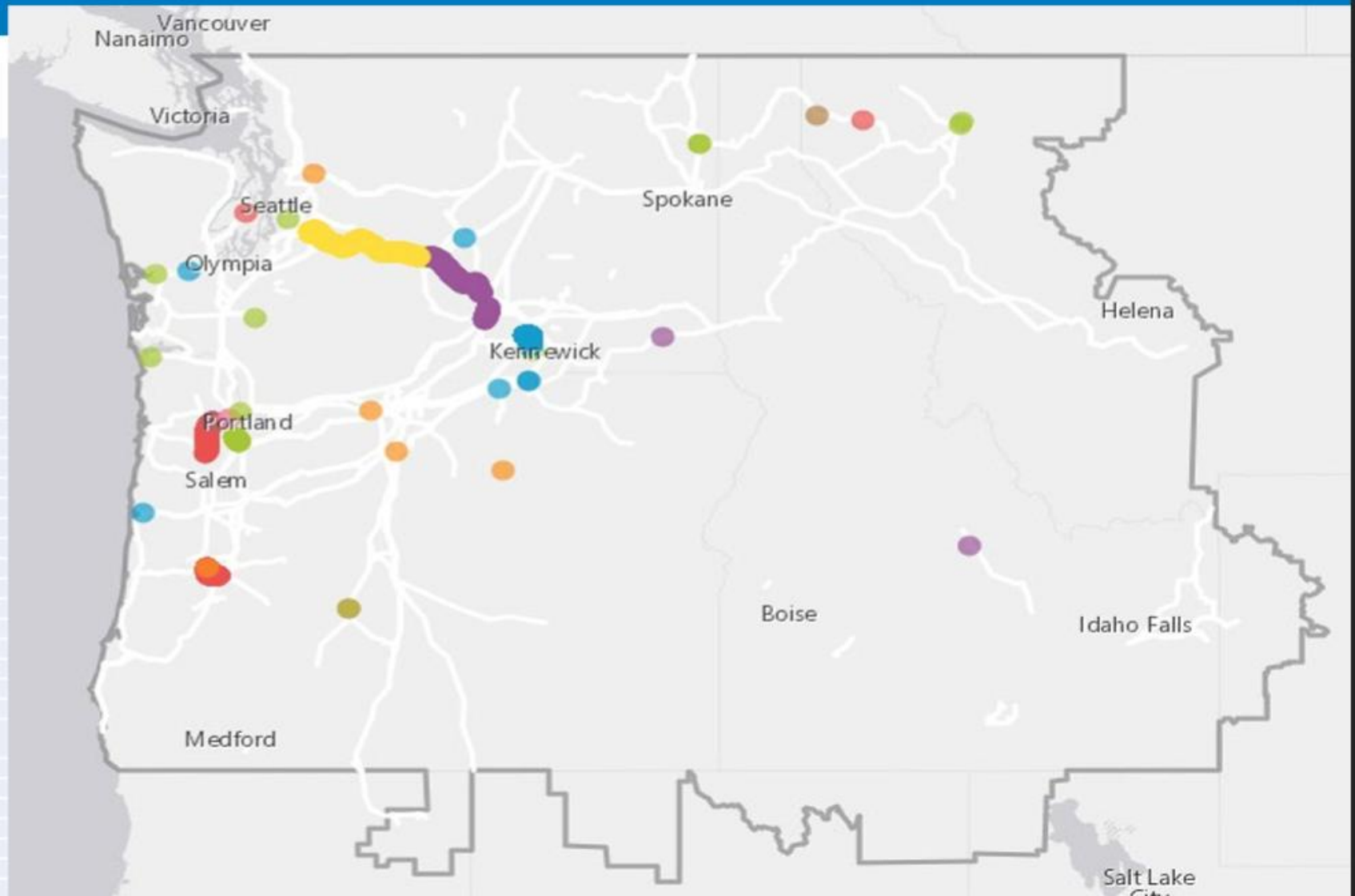
BPA's 10 Year Project Horizon

- 10-Year Planning Horizon. 35 Projects in all phases of development.

Expected Energization	Project
2025	CENTRAL OREGON COAST O&M FLEX/SUSTAIN (TOLEDDO-WENDSON-SANTIAM-TAHKENITCH)
2025	FOREST GROVE-MCMINNVILLE-1 115kV LINE UPGRADE
2025	LONGHORN 500/230 KV SUBSTATION I0482
2025	MCNARY 230KV SECTION BAY ADDITION L0481
2025	MCNARY-PATTERSON TAP 115KV LINE
2025	NORTHERN MID-COLUMBIA PROJECT (BPA-CHELAN-DOUGLAS-GRANT)
2025	RED MOUNTAIN-HORN RAPIDS 115KV TRANSMISSION LINE RECONDUCTOR
2025	SOUTH ELMA-SATSOP PARK-1 LINE REMOVE IMPAIRMENTS
2026	CARLTON AREA UPGRADES
2026	KITSAP CAP RELOCATION AND BREAKER REPLACEMENT
2026	LAPINE SUBSTATION UPGRADE TSEP 2016
2026	LIBBY POWER HOUSE 1 AND 2 REDUNDANT TRANSFER TRIP
2026	LOOKOUT POINT-ALVEY-1 AND ALVEY-2: 115KV LINE TRANSFER TRIP ADDITION
2026	TROUTDALE 230KV SERIES BUS SECTIONALIZING BREAKER
2027	BELL-BOUNDARY 230 kV No. 1 (SACHEEN) LINE UPGRADE.
2027	CONKELLEY SUBSTATION RETIREMENT
2027	HIGH SIDE BREAKER AND GEAR ASSOCIATED WITH THE CLATSOP TRANSFORMER REPLACEMENT
2027	LAPINE: UPGRADE TSEP 2016 - TRANSFORMER ADDITION
2027	MAPLE VALLEY 230 kV SHUNT REACTOR
2027	PEARL-SHERWOOD-MCLOUGHLIN UPGRADE TSEP 2021
2027	RICHLAND-STEVENS DRIVE 115KV LINE
2027	SILVER CREEK BUS SECTIONALIZING & TRANSFORMER PCB ADDITION
2027	SOUTH TRI-CITIES REINFORCEMENT WEBBER CANYON G0558
2027	ST. JOHNS 230/115 kV LOW-SIDE LINE SECTION REMOVE IMPAIRMENTS
2027	UPGRADE ABERDEEN TAP TO SATSOP PARK-COSMOPOLIS-1: 115KV (TPP)
2028	ALVEY-DILLARD TAP 115KV LINE REBUILD
2028	BUCKLEY AIR INSULATED SUBSTATION (FUTURE)
2028	KEELER 230 kV BUS SECTIONALIZING BREAKER ADDITION (KEELER EQUIPMENT REPLACEMENTS, BREAKER ADDITION & NEW HORIZON TERMINATION (L0452))
2028	MONROE-NOVELTY 230KV LINE UPGRADE
2028	MORROW FLAT 230 KV SHUNT REACTOR
2028	QUENETT CREEK SUBSTATION (L0380)
2029	KEELER 500KV EXPANSION AND TRANSFORMER ADDITION
2030	SCHULTZ-RAVER RECONDUCTOR AND PAUL CAPACITOR
2030	SCHULTZ-RAVER: SERIES CAPS TSEP 2020
2032	TROY SUBSTATION EXPANSION PROJECT



Conclusion: NSE

Commitment to Partnership
NSE remains devoted to constructive cooperation based in transparency, creative solutions, and alignment with regional goals for the future (load service, asset development, meeting compliance program obligations, and future state of transmission.

Collaborative Engagement
A collaborative approach that respects all stakeholders' rights, investments, and business model choice. This is vital for the success, equity, and stability of the region.

Revision to GAT Process
Moving to a tariff proceeding, NSE requests that these workshops provide a structure to discuss multiple subtopics within these proposals, such as a dedicated discussion on CRC, Financial Security, Transitional offers, etc.

No Need to Harm or Be Unfair to Make Things Better
Fixing things doesn't require hurting some while helping others.
Back of line can't win over first
Bad precedent to wait, change, jump predecessors and those playing by rules = bad for investment.

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