

SILS Customer Comment Period – Overview of Options

Public Meeting

Rates Hearing Room

August 16, 2012

SILS Comment Period - Issue Statement

- Six customers in SE Idaho:
 - Fall River, Idaho Falls, Lost River, Lower Valley, Salmon River & Soda Springs
 - Currently sums to about 250 aMW of load, growing to about 325 aMW in FY 2028
 - Current coincidental peak of about 450 MW, growing to about 550 MW in FY 2028
- Current service through South Idaho Exchange (SIE) and General Transfer Agreement (GTA) – Both with PacifiCorp
 - Due to notice from PacifiCorp in June 2011, set to expire in June 2016
 - Current service costs approximately \$9m for SIE and \$2.25m for GTA
- SE Idaho loads served off of PacifiCorp's eastern system, PacifiCorp BAA
- No firm transmission rights available between FCRPS and SE Idaho Loads

SILS Comment Period - Bridge Arrangements

- Current agreements expire in July of 2016.
- Current timelines for transmission solutions are:
 - FY 2017 for MSTI
 - Necessary tap line would not be in place until FY 2018, delaying service to load until this time
 - FY 2018 of B2H
 - Delay from FY 2016 publically announced in early August (before comment period)
 - FY 2020 for BPA constructions
 - Very rough estimate based on approximate time to permit MSTI
- For all transmission solutions a bridge would be necessary between July 2016 and in-service date.
 - Comment period materials assumes market based power purchase strategy, with OATT service from PacifiCorp for bridge.
 - Bridge identified by team as top priority for FY 2013 SILS workload

SILS Comment Period – Power Purchase

- One power purchase option shown in analysis
 - Several options of power purchase have been identified by trading floor
 - Comment period materials only show one as representative sample
 - Limited discussion of power purchase not intended to speak to likelihood
 - Not intended to convey 5/6th chance of construction option since 5 of 6 options are transmission
- Power purchase option:
 - Assumes a market purchase, priced at Palo Verde
 - Offsets purchase with sale of power at Mid-C to make comparable with transmission options (where power would be sourced from Mid-C)
 - Prices load following through combination of more than minimum block purchases and an option purchase
 - Also includes transmission wheel for resale of portions of block purchases
 - Requires OATT service

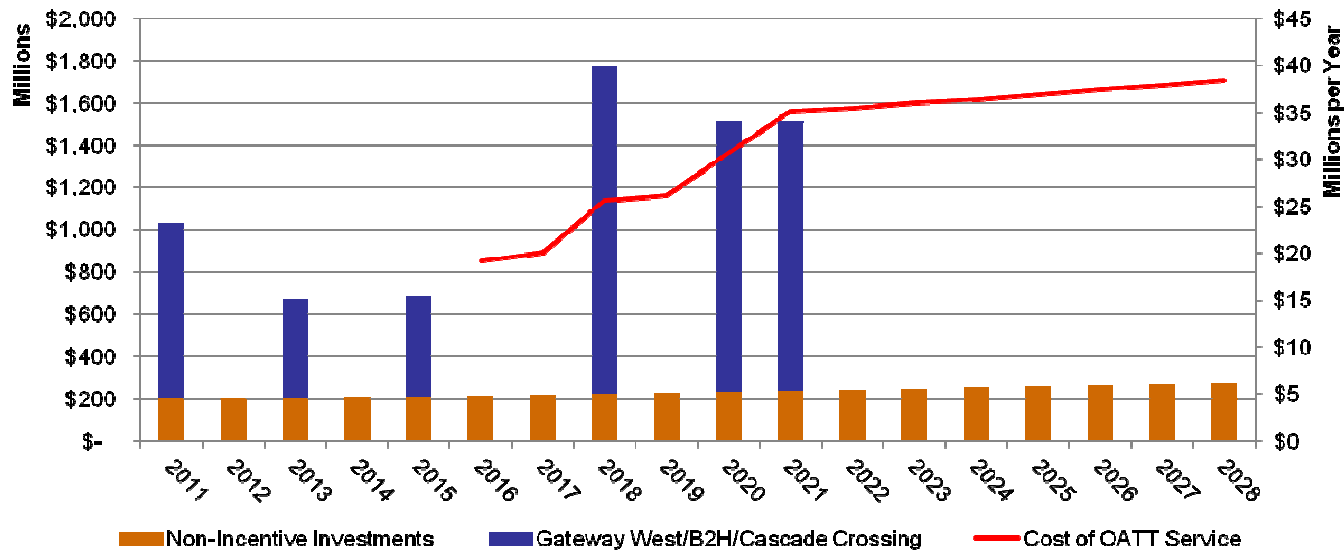
SILS Comment Period – Cost Estimates of Power Purchase

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1) Cost of Power Purchase	\$0.0	\$0.0	\$2.8	\$4.9	\$8.6	\$9.0	\$8.8	\$9.4	\$9.3	\$9.6	\$9.9	\$9.9	\$10.2	\$10.4	\$10.6
2) Cost of Pac OATT Service	\$0.0	\$0.0	\$19.2	\$20.1	\$25.6	\$26.1	\$30.6	\$35.1	\$35.5	\$36.0	\$36.4	\$36.9	\$37.4	\$37.9	\$38.4
Total Cost of Power Purchase Option	\$0.0	\$0.0	\$22.1	\$25.1	\$34.2	\$35.1	\$39.4	\$44.5	\$44.8	\$45.5	\$46.3	\$46.8	\$47.5	\$48.2	\$48.9

- Escalation mostly due to OATT service, some price escalation in Palo Verde in mid-term
- Otherwise very straightforward

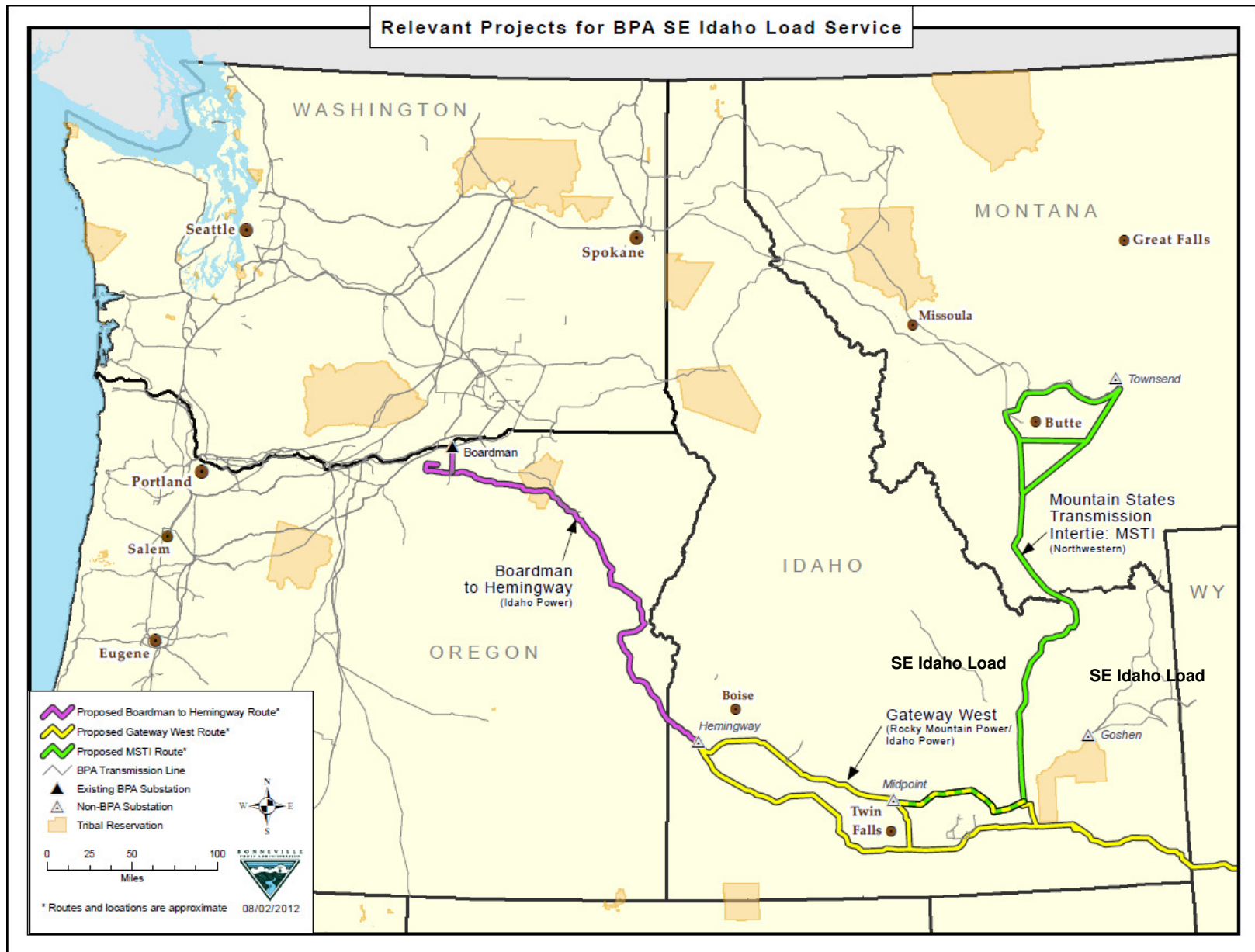
SILS Comment Period – OATT Service

- Cumulative investments in major transmission projects about \$6 billion dollars over period
 - Numbers taken from PacifiCorp Integrated Resource Plan (IRP)



- **Goshen served load: ~50%**
 - Lower Valley, most of Fall River
- **Idaho Falls load: ~26%**
- **Other loads in SE Idaho: ~24%**
 - Lost River, Salmon River, Soda Springs, small portion of Fall River

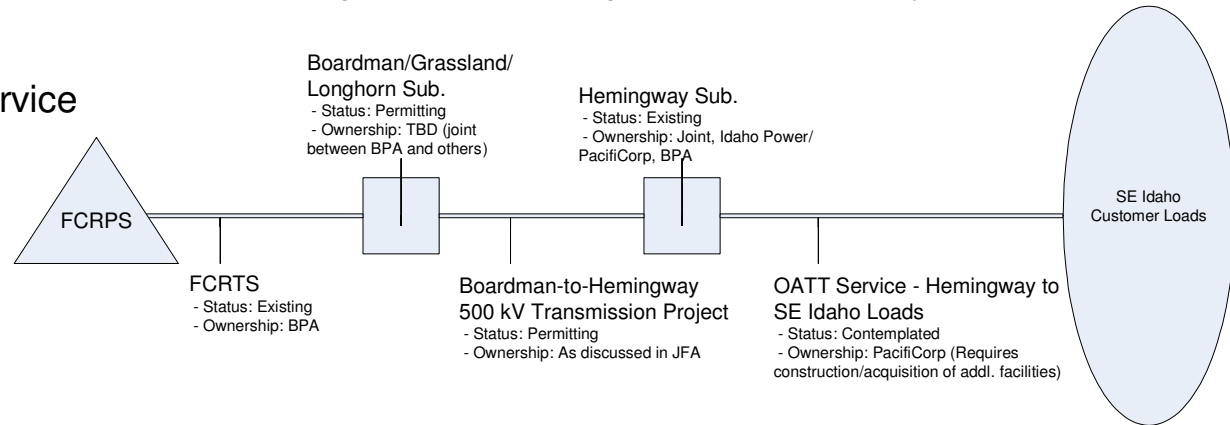
	Directly Connected Load Transfer Service Load	
Power Purchase	0%	100%
B2H with OATT Service	0%	100%
B2H with Asset Swap	100%	0%
MSTI with Tap Line	76%	24%
BPA 500 kV Construction	76%	24%
BPA 230 kV Construction	76%	24%



SILS Comment Period – B2H Variations

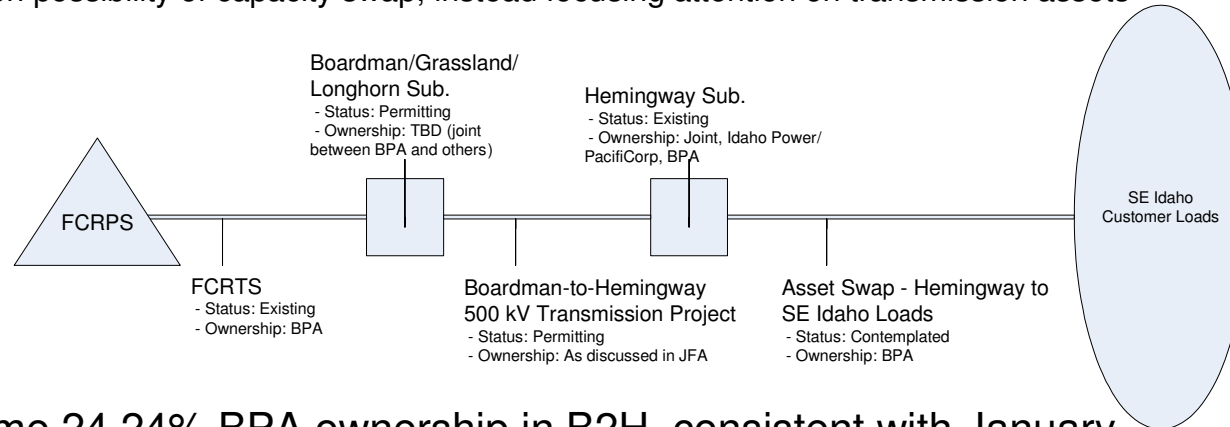
- Supporting Documentation continues options contemplated in January 2012 East of Hemingway MOU:

1. B2H with OATT service



2. B2H with swap

- Does not mention possibility of capacity swap, instead focusing attention on transmission assets



- Both variations assume 24.24% BPA ownership in B2H, consistent with January 2012 Joint Funding Agreement

SILS Comment Period – Cost Estimate of B2H with OATT

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
1) Lease Cost for B2H	\$0.0	\$0.0	\$3.0	\$6.0	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9
2) Cost of O&M	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$1.4	\$2.0	\$2.6	\$3.2
3) Cost of Pac OATT Service	\$0.0	\$0.0	\$0.0	\$0.0	\$25.8	\$26.1	\$30.6	\$35.1	\$35.5	\$36.0	\$36.4	\$36.9	\$37.4	\$37.9	\$38.4
4) Cost Inc of Existing OATT Service	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2
5) Cost of Bridge Power Purchase	\$0.0	\$0.0	\$22.1	\$25.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Cost of B2 + OATT Option	\$0.0	\$0.0	\$25.1	\$31.0	\$41.5	\$42.0	\$46.5	\$51.0	\$51.5	\$51.9	\$52.4	\$53.4	\$54.5	\$55.8	\$56.6

- Cost drivers B2H lease and OATT service
- Cost of existing OATT service relates to existing BPA transfer customers that require OATT service from either Pac or Idaho Power already
 - Also some wheeling of remote federal resources (Green Springs and Lost Creek)

SILS Comment Period - Lease Financing

- Materials assume that BPA would pursue lease-financing for any eligible capital expenditures
 - Transmission costs not yet broken out into eligible and non-eligible costs for lease-financing
 - For rough cost estimation entire transmission cost estimate assumed to be lease financed
 - Lease-financing uses initial construction loan (assumed 2 year) at 3% and long term loan (assumed 30 year) at 7%
 - Single Net Present Value (NPV) also shown for each transmission construction using BPA standard transmission discount rate of 9%

- For annual estimated cost, comment period materials show nominal values
 - Period shown in materials (FY2016-2028) does not include principle repayment, which would occur in last year of 30 year long term lease (FY 2048 for B2H)
 - Minimal impact of principle on NPV

SILS Comment Period – O&M

- BPA has different rates for O&M rates based on voltage and type of facility, but rough average is around 3%
 - Simple application of average not ideal for SILS, since the majority of the projects SILS is looking at are new, O&M assumed to be lower in initial period following construction
 - Scale of O&M implications is significant - 3% applied to total MSTI project cost (\$1.1 billion) would equal \$33 million per year
- SILS document continues BPA assumption sited in IPR for O&M on newly constructed facilities – 0.5% for first seven years
 - Years 8-14 SILS package then scales up from 0.5% to 3% (linear)
- Since the period beyond 15 years is outside window, no need to show flipside of O&M lifecycle – more expensive for old assets

SILS Comment Period – Swap Detail

BPA Eastbound Service

- Seasonal right to capacity on B2H (550 MW winter, 250 MW summer).
- BPA would receive ownership in portions of existing assets from Hemingway substation in SW Idaho to loads in SE Idaho
 - Some from PacifiCorp, some from Idaho Power
- Some improvements necessary to Idaho Power's system, BPA would fund share

BPA Westbound Service

- Small right to flat capacity on B2H (97 MW)
- BPA receives ownership in portions of existing assets, as well as fund a small portion of Gateway West (~3%) for westbound transfer right only
- May be used to transfer excess generation, load following for BA

SILS Comment Period – Swap Detail

PacifiCorp Service

- Currently asking to receive ownership in assets to serve Central Oregon loads
 - Provides for easier policy question since currently receiving service.
- Good for BPA, due to relatively high depreciated net book value of assets for central Oregon
- Would result in lost revenues of \$2.9m per year

Idaho Service

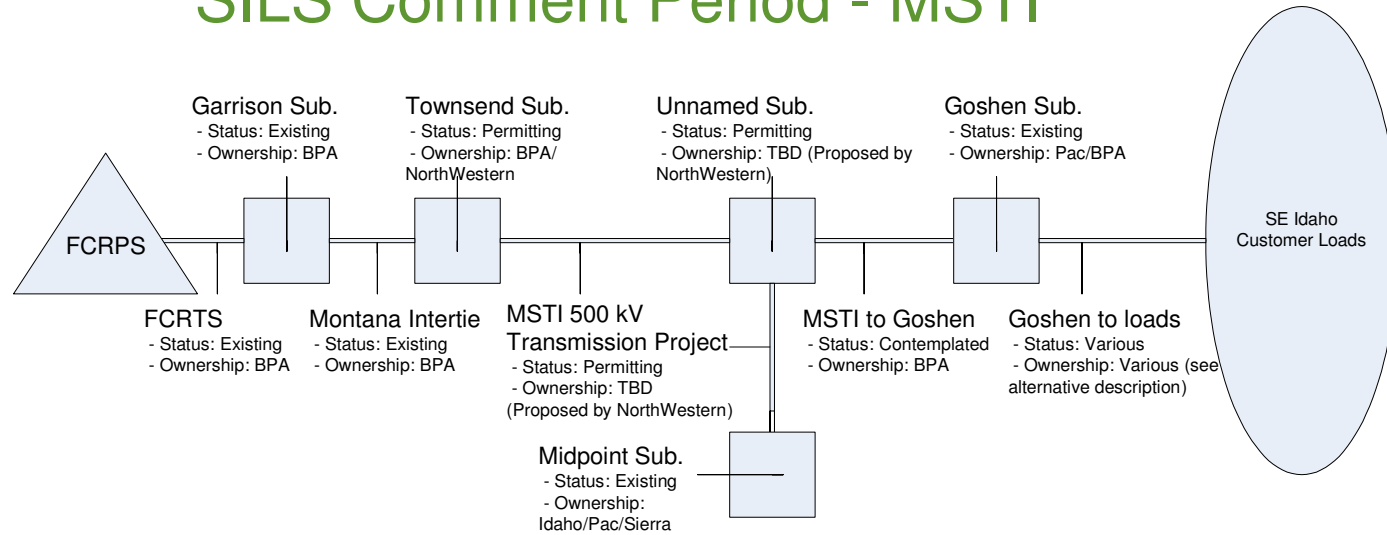
- Asking for service from Mid-C to northern terminus of B2H
 - Does not currently receive service, nor is there a request pending in the queue from Idaho Power
 - Since not currently receiving revenue, would be opportunity cost
- ATC not currently available...
- Opportunity cost of \$7.3m

SILS Comment Period – Cost Estimate of B2H with Swap

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1) Lease Cost for B2H	\$0.0	\$0.0	\$3.0	\$6.0	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9	\$13.9
2) Cost of O&M	\$0.0	\$0.0	\$0.0	\$0.0	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$1.4	\$2.0	\$2.6	\$3.2
3) Cost of BPA BAA Ancillaries	\$0.0	\$0.0	\$0.0	\$0.0	\$1.7	\$1.7	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.9	\$1.9	\$1.9
4) Lost Revenue for Pac Asset Swap	\$0.0	\$0.0	\$0.0	\$0.0	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9	\$2.9
5) Cost of Lease for Asset Swap	\$0.0	\$0.0	\$0.8	\$1.6	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8	\$3.8
6) Cost Inc of Existing OATT Service	\$0.0	\$0.0	\$0.0	\$0.0	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2	\$1.2
7) Cost of Bridge Power Purchase	\$0.0	\$0.0	\$22.1	\$25.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Cost of B2 + Asset Swap Option	\$0.0	\$0.0	\$25.9	\$32.8	\$24.3	\$24.4	\$24.4	\$24.4	\$24.4	\$24.4	\$24.4	\$25.1	\$26.7	\$28.3	\$28.9
8) Cost for IPCo Swap	\$0.0	\$0.0	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3	\$7.3

- Potential revenue impacts associated with swap are
 1. Lost PacifiCorp revenues,
 2. Costs of improvements and small amount of Gateway West participation
 - Also opportunity cost associated with potential foregone revenues associated with assets to Idaho Power

SILS Comment Period - MSTI



- Key assumption for MSTI – 50% assumed ownership
- Includes estimated cost of two small BPA constructions:
 - Cost of tap line from MSTI line to Goshen Substation
 - Goshen used as a placeholder in this analysis – really no room at Goshen to connect, and mostly PacifiCorp-owned
 - Estimated cost of small line to serve Idaho Falls
 - Assumed due to significant savings in OATT costs
 - Actual pursuit of line would be an independent decision from SILS

SILS Comment Period – Cost Estimate of MSTI

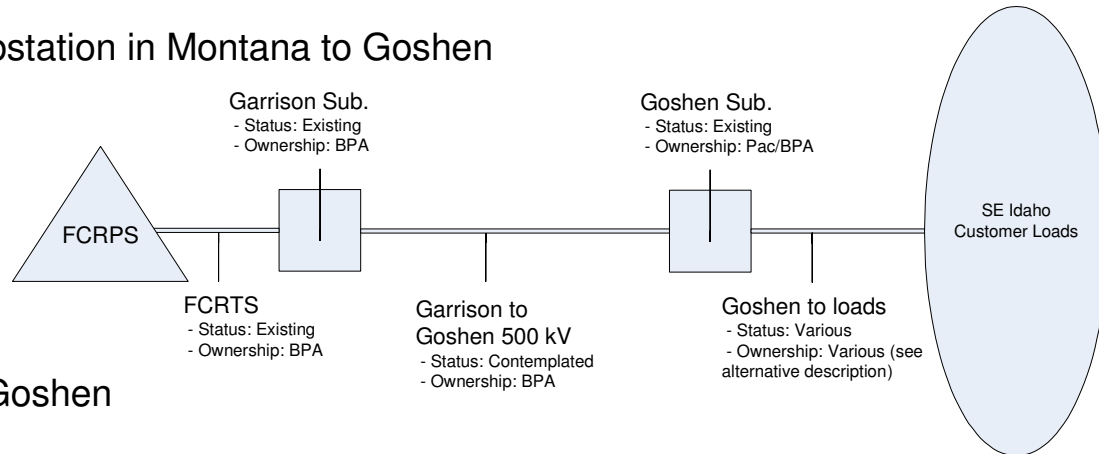
	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
1) Lease Cost for MSTI	\$0.0	\$7.5	\$15.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0	\$35.0
2) Lease Cost for BPA Const.	\$0.0	\$0.0	\$1.1	\$2.2	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0	\$5.0
3) Cost of O&M	\$0.0	\$0.0	\$0.0	\$2.1	\$2.4	\$2.4	\$2.4	\$2.4	\$2.4	\$2.4	\$3.8	\$5.5	\$7.2	\$8.9	\$10.6
4) Cost of BPA BAA Ancillaries	\$0.0	\$0.0	\$0.0	\$0.0	\$1.7	\$1.7	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.9	\$1.9	\$1.9
5) Cost of Partial Pac OATT Service	\$0.0	\$0.0	\$0.0	\$0.0	\$6.1	\$6.3	\$7.3	\$8.4	\$8.5	\$8.6	\$8.7	\$8.9	\$9.0	\$9.1	\$9.2
6) Cost of Bridge Power Purchase	\$0.0	\$0.0	\$22.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Cost of MSTI Option	\$0.0	\$7.5	\$38.2	\$39.2	\$60.3	\$60.4	\$61.5	\$62.6	\$62.7	\$62.8	\$64.6	\$68.3	\$68.1	\$69.9	\$81.8

- MSTI Cost driven largely by 50% assumption
 - Would provide BPA 750 MW of year-round capacity north to south and 550 MW south to north.

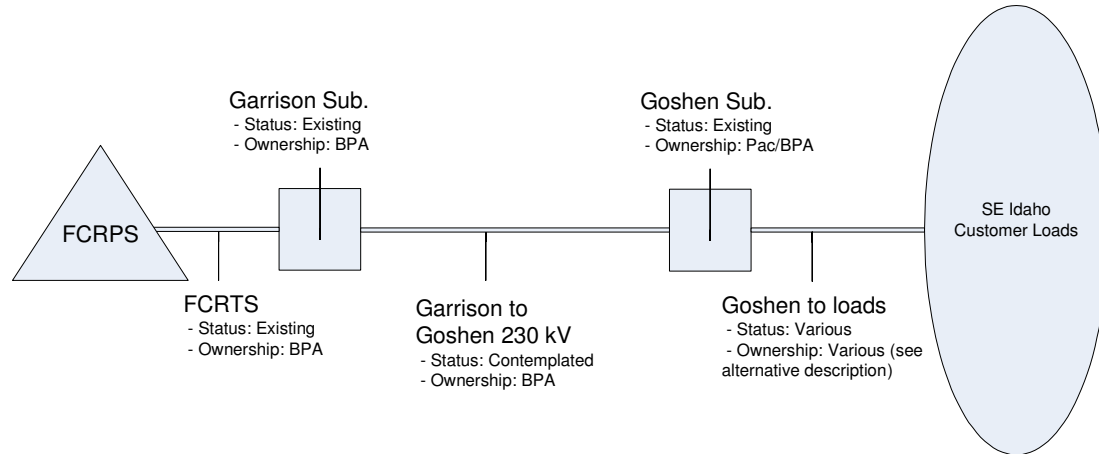
SILS Comment Period – BPA Construction

- Two variations on BPA construction to serve SE Idaho identified:

- 500 kV from Garrison Substation in Montana to Goshen



- 230 kV from Garrison to Goshen



SILS Comment Period – Cost Estimate of BPA 500 kV

	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
1) Nominal Lease Cost for BPA Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$10.9	\$21.8	\$50.9	\$50.9	\$50.9	\$50.9	\$50.9	\$50.9	\$50.9	\$50.9	\$50.9
2) Cost of O&M	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$3.0	\$3.0	\$3.0	\$3.0	\$3.0	\$3.0	\$3.0	\$5.2	\$7.3
3) Cost of BPA BAA Ancillaries	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.9	\$1.9	\$1.9
4) Cost of Partial Pac OATT Service	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$7.3	\$8.4	\$8.5	\$8.6	\$8.7	\$8.9	\$9.0	\$9.1	\$9.2
5) Cost of Bridge Power Purchase	\$0.0	\$0.0	\$22.1	\$25.1	\$34.2	\$35.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Cost of BPA 500 kV Option	\$0.0	\$0.0	\$22.1	\$25.1	\$45.1	\$66.9	\$83.0	\$84.1	\$84.2	\$84.3	\$84.6	\$84.8	\$84.7	\$87.0	\$89.3

- Cost of lease high due to 100% ownership by BPA
- Siting and costing somewhat similar to MSTI
 - Includes phase shifter
 - Similar route

SILS Comment Period – Cost Estimate of BPA 230 kV

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1) Nominal Lease Cost for BPA Construction	\$0.0	\$0.0	\$0.0	\$0.0	\$6.4	\$12.8	\$29.9	\$29.9	\$29.9	\$29.9	\$29.9	\$29.9	\$29.9	\$29.9	\$29.9
2) Cost of O&M	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$3.0	\$4.3
3) Cost of BPA BAA Ancillaries	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.9	\$1.9	\$1.9
4) Cost of Partial Pac OATT Service	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$6.8	\$7.9	\$7.7	\$7.9	\$7.9	\$8.0	\$8.1	\$7.8	\$7.9
5) Cost of Bridge Power Purchase	\$0.0	\$0.0	\$22.1	\$25.1	\$34.2	\$35.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Total Cost of BPA 230 kV Option	\$0.0	\$0.0	\$22.1	\$25.1	\$40.6	\$47.9	\$40.2	\$41.3	\$41.1	\$41.3	\$41.3	\$41.5	\$41.6	\$42.6	\$44.0

- Document notes that, while not included in table above, cost of losses expected to be significant
 - 80-100 MW some hours
- 230 kV would only provide about 400 MW of capacity, so power purchase also needed
 - Line assumed to provide load following

SILS Comment Period - Summary of Cost Estimates

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
<i>Current Service - SIE & GTA</i>	\$11.3	\$11.3	??	??	??	??	??	??	??	??	??	??	??	??	??
Power Purchase + OATT	\$0.0	\$0.0	\$22.1	\$25.1	\$34.2	\$35.1	\$39.4	\$44.5	\$44.8	\$45.5	\$46.3	\$46.8	\$47.5	\$48.2	\$48.9
B2H + OATT	\$0.0	\$0.0	\$25.1	\$31.0	\$41.5	\$42.0	\$46.5	\$51.0	\$51.5	\$51.9	\$52.4	\$53.4	\$54.5	\$55.6	\$56.6
B2H + Transmission Asset Swaps	\$0.0	\$0.0	\$25.9	\$32.6	\$24.3	\$24.4	\$24.4	\$24.4	\$24.4	\$24.4	\$24.4	\$25.1	\$25.7	\$26.3	\$26.9
MSTI with Tap	\$0.0	\$7.5	\$38.2	\$39.2	\$50.3	\$50.4	\$51.5	\$52.6	\$52.7	\$52.8	\$54.5	\$56.3	\$58.1	\$59.9	\$61.8
BPA 500 kV Construction	\$0.0	\$0.0	\$22.1	\$25.1	\$45.1	\$56.9	\$63.0	\$64.1	\$64.2	\$64.3	\$64.5	\$64.6	\$64.7	\$67.0	\$69.3
BPA 230 kV Construction	\$0.0	\$0.0	\$22.1	\$25.1	\$40.6	\$47.9	\$40.2	\$41.3	\$41.1	\$41.3	\$41.3	\$41.5	\$41.6	\$42.6	\$44.0

SILS Comment Period

Questions?

