#### **PSE** on bainbridge island

# Investing in reliability & grid modernization



Andy Wappler and Jens Nedrud, Oct. 17, 2019

#### Why are we here tonight?

- Electric reliability needs to be improved
- Committed to exploring new technologies
- Combines new technologies and grid infrastructure
- Partnering with the community to implement solutions









TOGETHER, we're reducing our carbon footprint



Worked with WA Legislature to craft feasible 100% clean electricity legislation



Addressing Island's electric needs



WA State Ferries plan to electrify

Investing in reliability and grid modernization



New transmission line and rebuild the aging Winslow Tap to improve reliability

New 3.3 MW battery energy storage system to add additional capacity Targeted conservation and demand response tools to reduce demand





## Needs Assessment





#### **Findings**

- Poor transmission reliability
- Aging transmission infrastructure
- Growth: ferry electrification and increased demand for power

## Why do my lights go out so often?



2/3 of customers at risk of outage due to lack of back-up transmission



Transmission line



## **Needs Assessment findings**



#### **Poor transmission reliability**



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## Needs Assessment findings



#### Aging transmission infrastructure

Winslow Tap line

- Equipment nearing end of useful life, leads to more outages if not replaced
- Outage response time impacted by:
  - Dense vegetation
  - Challenging terrain
  - Limited access



## Needs Assessment findings

## Substation capacity need

- Ferry electrification
- Local growth





10 MW = ~2,000 🞧

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#### **Questions?**





Our proposed plan: Project package combining new technologies and grid infrastructure

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## Modernizing the grid





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## **Solutions Report**





- 10-year planning horizon
- Analyzed traditional "wires" and non-wires alternatives
- Solution uniquely addresses Bainbridge Island's needs

## PSE's proposed solution



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New 3.3 MW battery energy storage system to add additional capacity Targeted conservation and demand response tools to reduce demand

## Reliability and grid modernization



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### Anticipated schedule



Targeted conservation/demand response tools deployed 2020-2030

## Battery in-service 2022

Winslow Tap rebuilt 2023

Transmission line loop built 2024

## What about undergrounding?

#### **Undergrounding transmission**

- Requires cost sharing
- City must pay cost difference
- Longer construction; no trees or shrubs in corridor; lengthy repairs

Process for PSE and City to explore undergrounding



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#### Questions









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## How you can help



Participate in our transmission line "loop" routing process



Reduce your energy demand by participating in conservation and demand response programs



Stay engaged and provide input on projects



#### Next steps



Community meeting (tonight!)

Late 2019 – early 2020 Information sessions

**Early 2020** Transmission line routing process

**2020** Begin deploying conservation programs

2020+ Ongoing outreach

#### Questions





## PSE's proposed solution



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New 3.3 MW battery energy storage system to add additional capacity Targeted conservation and demand response tools to reduce demand Working together for a better energy future



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