

Exhibit A

**Analysis of Alternatives Considered
by PSE with Respect to the Redevelopment,
Retirement, or Sale of the Electron Project**

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At an Energy Management Committee (“EMC”) meeting, dated April 20, 2012, PSE presented an evaluation of three alternatives for the future of the Electron Project:

- (i) PSE could make capital expenditures necessary to extend the life of the Electron Project:
- (ii) PSE could retire the Electron Project including demolition and removal of the flume and other project infrastructure; or
- (iii) PSE could sell the Electron Project.

PSE’s analysis of each of the three alternatives is discussed below:

Alternative 1: Extension of the life of the Electron Project

An evaluation team representing various PSE departments developed alternatives for redeveloping and extending the life of the Electron Project. The team analyzed variations of redevelopment options for both a short-term life extension (retirement in 2026) and a long-term life extension (retirement in 2062). All of the alternatives considered included investments to repair, replace, or upgrade each of four key project features:

- (i) the flume;
- (ii) the penstocks;
- (iii) downstream fish passage at the diversion dam; and
- (iv) the Pelton turbines.

Due to the current physical condition of the flume box of the Electron Project, all options analyzed by PSE included the replacement of virtually all ten miles of the wood flume liner that

carries water to the forebay. Replacement of the liner would restore the flume box's capacity to 400 CFS and generation at the plant to its rated capacity. PSE considered a range of different materials for a new flume liner and ultimately determined that Alaska yellow cedar would be the most suitable due to its high strength, longevity, and resistance to organic growth and rot. PSE estimated capital expenditures of approximately \$40 million associated with replacement of the wood flume liner. For a long-term redevelopment of the Electron Project PSE estimated approximately \$6 million of additional cost for improvements to the flume's supporting structure.

As mentioned above, the Electron Project's original 1904 penstocks need to be repaired or replaced. PSE estimated that it would cost approximately \$3.5 million for weld repairs to the penstocks and approximately \$12 million for penstock replacement. The replacement alternative was recommended by PSE engineers due to continued risk of failure associated with the repair alternative. Penstock repairs would be only a temporary solution requiring additional monitoring and frequent inspections. Due to the continued operational and financial risks posed by penstock repairs, PSE concluded that replacement of the penstocks would be included in the most likely short-term and long-term life extension alternatives for the Electron Project.

PSE projected that the installation of an engineered, in-river screen (a Coanda screen) would be a part of any plan to rebuild and continue to operate the Electron Project. The installation of a Coanda screen would likely be required as a condition of the HCP and ITP in order to keep endangered fish species from entering the Electron Project flume. PSE estimated capital expenditures of approximately \$10 million associated with the installation of a Coanda screen.

PSE projected that upgrading vintage 1904 design turbines to modern machined, single-piece Pelton wheels and nozzles could improve efficiency by approximately 25% and increase generation to approximately 184,000 MWh on an annual basis (using 20-year average water data). PSE estimated capital expenditures of approximately \$5 million associated with upgrades to the turbines. All options considered by PSE included the costs and benefits associated with the turbine upgrades because PSE projected that it could recoup this capital expenditure within three to five years, depending on weather and river flows.

PSE defined short-term life extension as extending the life of the Electron Project through 2026 (the end of the term of the current Resource Enhancement Agreement). Based on the costs and risks associated with each of the four key features described above, PSE determined that the most likely option for short term life extension would include

- (i) replacing the wood flume liner with Alaska yellow cedar,
- (ii) replacing the penstocks,
- (iii) installing an engineered, in-river screen (Coanda screen) at the diversion dam, and
- (iv) upgrading the wheels and nozzles of the Pelton turbines.

PSE estimated the cost of this short-term redevelopment option to be approximately \$69 million. Due to uncertainty around minimum in-stream flows that would be required under the HCP/ITP, PSE modeled the costs and benefits of the short term life extension with varying minimum in-stream flow requirements of 100 CFS, 130 CFS, and 160 CFS.

PSE defined long-term life extension as extending the life of the Electron Project through 2062. An approximately 50 year life extension was assumed for long-term redevelopment because this period corresponds with the anticipated life of a flume liner rebuilt with Alaska

yellow cedar. The primary scope of work associated with the most likely long-term redevelopment option is the same as short-term redevelopment with the addition of improvements to the flume's support structure. It includes

- (i) replacing the wood flume liner with Alaska yellow cedar and replacing components of the support structure to improve stability,
- (ii) replacing the penstocks,
- (iii) installing an engineered, in-river screen (Coanda screen) at the diversion dam, and
- (iv) upgrading the wheels and nozzles of the Pelton turbines.

PSE estimated the cost of this long-term redevelopment option to be approximately \$75 million. Due to uncertainty around minimum in-stream flows that would be required under the HCP/ITP, PSE modeled the costs and benefits of the long-term life extension with varying minimum in-stream flow requirements of 100 CFS, 130 CFS, and 160 CFS. Any extension of the life of the Electron Project beyond 2026 would also require an agreement with the Puyallup Tribe that extends beyond the term of the existing Resource Enhancement Agreement. It is uncertain whether such an agreement is feasible.

Alternative 2: Retirement of the Electron Project

As stated above, the Resource Enhancement Agreement primarily defines PSE's obligations as owner and operator of the Electron Project. The Resource Enhancement Agreement requires PSE to notify the Puyallup Tribe by 2018 of PSE's intent to either upgrade or retire the Electron Project at the end of the agreement term in 2026. Additionally, the Resource Enhancement Agreement contains an early termination provision in the event PSE must "Retire the Project" prior to 2026. (The Resource Enhancement Agreement defines "Retire

the Project” as “such actions as Puget shall deem necessary for purposes of permanently discontinuing the generation of electricity at the project and, for such purposes, the removal of the Electron dam from the channel of the Puyallup River.”) Upon completion of dam removal and subsequent notice to the Puyallup Tribe, the Resource Enhancement Agreement and associated obligations terminate.

Although the Resource Enhancement Agreement requires removal of only the diversion dam, permanent retirement of the Electron Project would necessarily entail the removal or alteration of additional structures located at the project site to comply with state and local regulations while managing PSE’s risk of environmental and public safety liability. PSE identified five project areas that would need to be addressed in the scope of work for retirement of the Electron Project:

- (i) the diversion dam and headworks;
- (ii) the flume and settling basin;
- (iii) the forebay and surrounding area;
- (iv) the penstocks; and
- (v) the powerhouse and river-front area.

Each of these is discussed in greater detail below.

PSE considered the following retirement activities for the diversion dam and headworks:

- (i) demolition and removal of the diversion dam;
- (ii) demolition and removal of the intake gate;
- (iii) demolition and removal of the rock chutes;
- (iv) demolition and removal of the control building; and

- (v) demolition and removal of the fish ladder.

PSE projected that the demolition and removal of all diversion dam and headworks structures would cost approximately \$845,000. In such amount, PSE included projected costs for sediment control and monitoring, which PSE assumed would be a requirement of the Clean Water Act Section 404 permit necessary for dam removal.

The Resource Enhancement Agreement requires the complete demolition and removal of each of the diversion dam, intake gate, rock chutes, and fish ladder as each of these structures is located within the channel of the Puyallup River. Although the Resource Enhancement Agreement does not specifically require removal of the control building, PSE considered its removal because it could be removed at a relatively low incremental cost given that equipment and personnel will already be on site for demolition of the other components. Moreover, removal of the control building would completely clear the diversion dam and headworks area of all structures minimizing public safety liability risks and the need for continued security at the site.

PSE considered the following retirement activities for the flume and settling basin:

- (i) demolition and removal of the flume;
- (ii) demolition and removal of the supporting structure; and
- (iii) demolition and removal of shacks/platforms.

In such scope of work, PSE included removal and disposal of accessible debris piles along the flume, re-grading of the settling basin using dike material to form a more natural contour, and removal of the settling basin bypass pipe. PSE projected that the demolition and removal of the flume and settling basin would cost approximately \$19.2 million.

In addition to the complete removal of the flume and settling basin, PSE considered options to remove several sections of flume (and shacks) to limit public access. PSE projected that this option—combined with additional gates, fencing, and security measures—would likely cost less than complete removal of the flume and settling basin but decided that this was not the preferred option because such option would subject PSE to continued environmental liability associated with treated lumber in the remaining structure.

The forebay area includes a small reservoir supported by concrete and earthen dikes, a gate structure and building used to regulate the volume of water entering the penstocks, a downstream-migrating fish collection structure, a shop building, and a warehouse/storage building. PSE considered the following retirement and decommissioning activities for the forebay and surrounding area:

- demolition and removal of the gate structure, including the gate house building, wood and concrete inlet structures, concrete walls, footings and foundations;
- breach of the reservoir dikes;
- excavation of dike materials;
- return of the basin to a more natural appearing contour;
- demolition and removal of the fish collection structure; and
- retention of the shop and warehouse/storage buildings in place.

PSE projected that these activities to retire the forebay and surrounding area would cost approximately \$1.5 million.

PSE considered the following retirement activities for the penstocks:

- retention of the penstocks in place; and

- installation of concrete plugs in openings at the top of the penstocks.

PSE would plug the penstock openings with concrete to prevent both water and the public from entering them. PSE projected that these activities with respect to the penstocks would cost approximately \$307,000.

PSE determined that demolition and removal of the penstocks would not be necessary as there is little risk that the penstocks could be washed into the river as they deteriorate over time. Additionally, the risk of hillside destabilization and landslides associated with removal of the penstocks likely outweigh any potential environmental issues associated with leaving them in place.

PSE considered the following retirement activities for the powerhouse and river-front areas:

- removal of hazardous materials from the powerhouse building;
- minor repairs to ensure long-term stability of the powerhouse building;
- boarding up windows and securing entries to the powerhouse building;
- draining oil from and removing the step-up transformer from the site; and
- demolition and removal of the old shop building and office located just down-river from the powerhouse.

PSE projected that these activities to retire the powerhouse and riverfront area would cost approximately \$384,000.

Mothballing the powerhouse is significantly less expensive than complete demolition and is likely the preferred alternative from a historic properties standpoint. Once properly secured, the powerhouse building can remain in place with little or no ongoing maintenance, and the risk of unauthorized access by the public would be minimal. PSE determined that it must remove the old shop building and office because potential erosion of the riverbank below those structures may create the potential for those structures to collapse and fall into the river. Removal of the old shop building may also entail remediation for contaminated soil under and around the shop due to years of accumulated oil, grease, and metal cuttings.

In addition to the projected costs of retirement activities listed above, PSE also projected the following costs associated with Electron Project retirement:

- management and engineering costs of approximately \$2,227,000;
- permitting and related studies and mitigation costs of approximately \$490,000;
- legal, real estate, and environmental costs of approximately \$557,000;
- PSE overhead costs of approximately \$223,000; and
- Allowance for Funds Used During Construction (“AFUDC”) of approximately \$3,160,000.

PSE projected total costs associated with retirement of the Electron Project of approximately \$28.9 million

Alternative 3: Sale of the Electron Project

Under the sale alternative, PSE would sell the Electron Project on an “as-is, where is” basis and purchase the power through a power purchase agreement (“PPA”) at competitive

market prices. Additionally, PSE evaluated retaining title and/or rights to certain parcels of the Electron Project. PSE assumed that the existing liabilities related to the Resource Enhancement Agreement and HCP/ITP processes would transfer to the buyer.

PSE identified several benefits of a sale of the Electron Project, including the following:

- sale avoids operational risks and retirement costs;
- sale mitigates potential economic loss of retirement;
- sale transfers HCP/ITP uncertainty and costs to buyer;
- sale transfers Resource Enhancement Agreement obligations to buyer;
- sale transfers debris removal obligations to buyer; and
- if a sale is unsuccessful, other options remain available.