



# Energize Eastside Project

## Final Environmental Impact Statement

### VOLUME 1

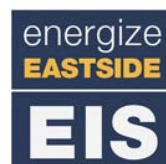
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**PREPARED FOR:**

The Cities of Bellevue, Newcastle,  
Redmond and Renton

**PREPARED BY:**

ESA



Environmental Impact Statement

The Phase 1 Draft EIS (released in January 2016) broadly evaluated the general impacts and implications associated with feasible and reasonable alternatives available to address PSE’s identified objectives for the project. The Phase 2 Draft EIS (released in May 2017) was a project-level evaluation, describing impacts at a site-specific and project-specific level for a group of segments and options that would meet PSE’s objectives, at a conceptual design level. This Final EIS focuses on a single route alignment (PSE’s Proposed Alignment), informed by the results of the Phase 1 and Phase 2 analyses. This approach is consistent with the requirements for Phased Review outlined in WAC 197-11-060 (5)(c). The Partner Cities have not identified a preferred alternative, nor have they made a final decision on any portion of the project.

This project-level EIS began at an early stage of design development for the project. PSE’s project design has been refined since publication of the Phase 2 Draft EIS, including route preference and design details, such as pole types, locations, voltage configuration, and associated project components. This is consistent with rules that intend for SEPA to be “*integrated with agency activities at the earliest possible time to ensure that planning and decisions reflect environmental values, to avoid delays later in the process, and to seek to resolve potential problems*” (WAC 197-11-055). Information about the project is approximate and subject to change and refinement as the design is developed, but is accurate enough to determine the impacts expected from the project. Where there is uncertainty about potential impacts, the Final EIS uses conservatively high impact assumptions to ensure that any potential significant impacts are addressed.

### 1.3 APPLICANT’S OBJECTIVES FOR THE ENERGIZE EASTSIDE PROJECT

PSE has determined that there is a need to construct a new 230 kV bulk electrical transmission line and an associated electrical substation east of Lake Washington to supply future electrical capacity and improve the reliability of the Eastside’s electrical grid. PSE prepared two studies that describe the need: the *Eastside Needs Assessment Report* and the *Supplemental Eastside Needs Assessment Report* (Gentile et al., 2014, 2015). These are referred to collectively as PSE’s Eastside Needs Assessment, as described in more detail in the Phase 1 Draft EIS, Section 1.3. Based on PSE’s needs analysis, PSE established broad objectives for the project as follows:

- Address PSE’s identified deficiency in transmission capacity.
- Find a solution that can be feasibly implemented before system reliability is impaired.
- Be of reasonable project cost.
- Meet federal, state, and local regulatory requirements.
- Address PSE’s electrical and non-electrical criteria for the project.

More details on the project objectives, including PSE’s electrical and non-electrical criteria, are described in detail in Chapters 1 and 2 of the Phase 1 Draft EIS.

As outlined in WAC 197-11-060 (3)(a), the lead agency is responsible for ensuring that a proposal that is the subject of environmental review is properly defined. The process of defining the proposal includes an understanding of the need for the project, to enable a thorough understanding of the project’s objectives (see Section 1.8 of the Phase 1 Draft EIS) and technical requirements, and to accurately identify feasible and reasonable project alternatives for consideration in the EIS. According to WAC 197-11-060(3)(a)(iii), proposals should be described in ways that encourage

considering and comparing alternatives, and agencies are encouraged to describe proposals in terms of objectives rather than preferred solutions. An understanding of the need for the project helps to clarify the objectives used to develop project alternatives.

This Final EIS will not be used to reject or validate the need for the project; it will be used to inform decision-makers reviewing land use permits that PSE will need to secure from each affected jurisdiction to build the proposed substation and transmission line. The EIS process is intended to identify reasonable alternatives that could attain or approximate PSE's objectives at a lower environmental cost and disclose potential significant adverse environmental impacts associated with the alternatives analyzed.

The deficiency in transmission capacity on the Eastside identified by PSE is based on a number of factors. Key factors include growing population and employment in the Eastside, changing consumption patterns associated with larger buildings, more air-conditioned space, and changing utility regulations that require a higher standard of electrical system resilience than was required in the past. Heightened concerns about resilience that underlie the regulatory changes trace back to an August 2003 blackout in the Midwestern and Northeastern portions of North America that affected 55 million customers.<sup>1</sup>

PSE has concluded that the most effective and cost-efficient solution to meet its objectives is to site a new 230 kV transformer in the center of the Eastside, which would be fed by new 230 kV transmission lines from the north and south (Stantec, 2015).

The Eastside population is expected to grow at a rate of approximately 1.2 percent annually over the next decade, and employment is expected to grow at an annual rate of approximately 2.1 percent, a projection based on internal forecasting conducted by PSE. Given the nature of expected development, PSE has projected that peak electrical demand within the Eastside will grow at an annual rate of 2.4 percent<sup>2</sup>. This forecast is based on the concept that economic activity has a significant effect on energy demand. As described in PSE's *Eastside Needs Assessment*, this growth rate takes into account population and employment growth as well as expected "block load" growth that PSE is aware will be coming in the next 10 years (Gentile et al., 2014, 2015).

Without adding transmission capacity for local peak periods in the Eastside, a deficiency could develop as early as winter of 2017–2018, with potential for *load shedding* (forced power outages) by summer of 2018 (PSE, 2017a). To address this risk in the near term, PSE would continue to deploy and expand the use of a series of operational steps to prevent system overloads or large-scale loss of customers' power; these steps are referred to as *Corrective Action Plans (CAPs)*. CAPs generally involve shutting off or reducing load on overloaded equipment and rerouting the load to other equipment. The CAPs are seen as temporary measures to keep the entire system operating, but they can place large numbers of customers at risk of a power outage (e.g., rolling blackout plan) if anything else on the system begins to fail. CAPs are described in more

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**Block loads** are substantial increases in expected electrical demand from individual customers, typically industrial, commercial, or institutional customers. PSE regularly communicates with large customers to estimate upcoming block load to ensure that their supply and *distribution system* will be capable of serving the need.

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<sup>1</sup> See U.S. - Canada Power System Outage Task Force Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations, April 2004.

<sup>2</sup> PSE annually updates projected electrical demand systemwide; however, it does not develop annual estimates for the Eastside only.