

Frequently Asked Questions

August 2012

Siting the Project

How did the stakeholder advisory group develop their preferred route recommendation?

Since September 2011, PSE has been working with an advisory group and consulting with the broader community to explore possible routes for the new Sammamish-Juanita 115 kilovolt (kV) transmission line.

The advisory group used a computer modeling tool that incorporated built and natural environment features to develop potential routes for discussion, and took into account community values and concerns to develop over 30 route alternatives. The group narrowed the field to three route alternatives, which we reviewed and modified to ensure they were feasible and constructible.

In June, PSE shared the three route alternatives with the community and hosted two community meetings. We discussed the project and route alternatives with more than 100 meeting attendees, and we received more than 400 comments.

On July 18, the advisory group met to develop its preferred route recommendation for PSE. The advisory group evaluated the route alternatives east of Interstate 405 (I-405) and west of I-405 separately. Advisory group members evaluated the three final route alternatives using six specific decision criteria, which included proximity to community land use areas and public support. The result was a combination of routes, agreed upon by consensus; Alternative 3 (east of I-405) and Alternative 1 (west of I-405). The advisory group's recommended preferred route is shown in Figure 1.

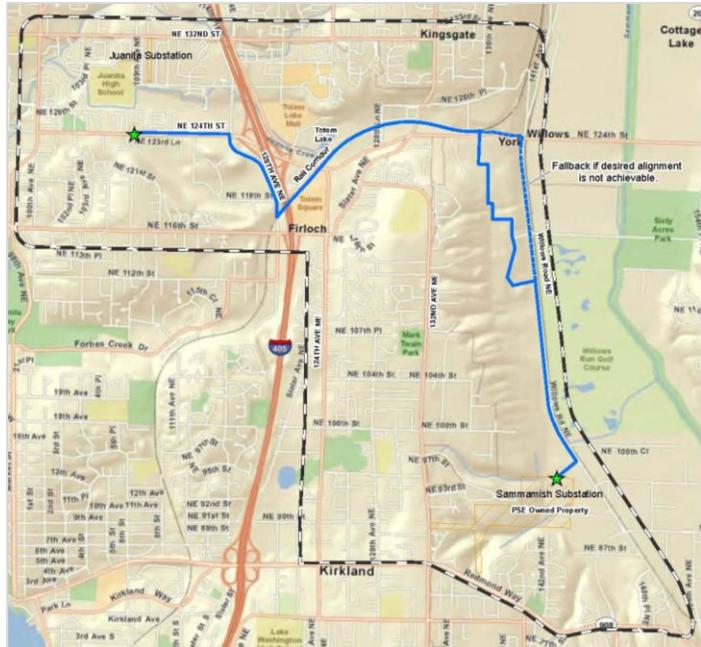
When will PSE identify the final route?

Using public comments and the advisory group's recommendation, PSE will make a final route decision later this summer and share the final route with the advisory group and the community. Once the final route has been determined, the project will move into the design and permitting phase. Construction is planned to begin in late 2013 with project completion expected in 2014.

Public Involvement

Why did PSE convene an advisory group to help site the transmission line? Who are the members?

PSE is committed to working with the community to better understand the issues as we select the route alignment that will meet the needs of PSE's customers, the local community and PSE. In an urban area with



multiple jurisdictions, there's no easy answer to siting a transmission line. It is important that community and business leaders are involved in the process and an advisory group is one way to do so.

PSE has been collaborating with a diverse advisory group to develop route alternatives, recommend a preferred route, and help us better understand community concerns.

PSE thanks all of the advisory group members and their respective organizations for participating:

- **Dirk Lakin**, Aerojet (Redmond)
 - **Rob Jammerman**, City of Kirkland, Public Works
 - **Linda Murphy**, City of Kirkland, Parks and Community Services
 - **Jean Rice**, City of Redmond, Parks
 - **Eric McConaghy**, City of Redmond, Planning
 - **Lynda Haneman**, Evergreen Hill Neighborhood (Kirkland)
 - **Lavon Weighall**, Evergreen Hospital (Kirkland)
 - **Danielle Lynch**, Greater Redmond Chamber of Commerce
 - **Ken Albinger**, Juanita Neighborhood (Kirkland)
 - **Mary Dunphy**, Alternate
 - **Richard Aijala**, Alternate
 - **Forrest Miller**, Lake Washington School District
 - **Don Schmitz**, North Rose Hill Neighborhood (Kirkland)
 - **Fred Proctor**, Proctor International, Inc (Redmond)
 - **Andy Swayne**, Puget Sound Energy
 - **Kathe Low**, Sustainable Redmond
 - **Tom Matthews**, Willows Rose Hill Neighborhood (Redmond)
 - **Gary Wightman**, Alternate
 - **Tim McGruder**, Alternate
- Past members
- Wilson Anhar, Aegis Living (Kirkland)
 - Cindy Jayne, Sustainable Redmond
 - Jill Krusinski, Grass Lawn Neighborhood/Willows Rose Hill Neighborhood (Redmond)
 - Ron Parker, Greater Kirkland Chamber of Commerce

How can I get involved in the project?

We encourage you to join the conversation about siting the new transmission line. To learn more:

- Visit PSE.com/SammJuan115 for maps, advisory group meeting information and more.
- Provide comments and ask questions about the project via email at info@sammjuan115.com.
- Review ongoing project updates as the project progresses.

Selecting the Route

Why does the advisory group's recommended preferred route end south of the Juanita substation?

PSE and the advisory group looked for creative ways to route the new transmission line, including having different Juanita-area endpoints. The endpoints still meet the electric system needs, while allowing the advisory group to develop more route options for the community to consider.

The advisory group's recommended preferred route will interconnect with an existing transmission line south of the Juanita substation in Kirkland. The existing line between the interconnection point and Juanita substation would be reconducted or rebuilt to the substation.

Why doesn't the recommended route stay on Willows Road?

The recommended route is located between commercial buildings west of Willows Road to avoid the City of Redmond's designated view corridor. It tries to avoid the view corridor by threading the needle around buildings, building restrictions, environmentally-sensitive areas and other restricted areas – all on private property that will require easements. While PSE believes it is possible, we may not be able to meet all these restrictions or obtain easement rights.

We know that siting the line along Willows Road would not have the same level of complication, so we are considering it the "fallback" route. The City's viewshed regulations do not prohibit transmission line construction; however, PSE is trying to be sensitive to the City's request to not construct a transmission line within the view corridor.

Why doesn't PSE bury the transmission line?

While transmission lines can be undergrounded, PSE historically constructs these neighborhood transmission lines above ground for several reasons. Underground transmission lines present several hurdles, including enough space in the public right of way for the trench and vaults needed to place the line underground, substantial cost sharing from the local jurisdiction/customers to pay for the increased cost of putting the line underground (which runs approximately \$4 million to \$10 million a mile), and ability to address the increased environmental impacts.

For a 115 kV line, it could cost \$4 million to \$10 million per mile to bury the line. Burying a transmission line also takes more time to construct than an aboveground line due to the time it takes to clear vegetation, dig trenches, relocate existing utilities, and install large vaults for the length of the project. Depending on the difficulty of trenching, burying the line could add four to seven months to the construction phase.

For more information, review PSE's underground transmission line fact sheet at PSE.com/inyourcommunity/PSEConstructionProjects/Documents/UndergroundingFactSheet.pdf.

Design

How much will the project cost?

Using the advisory group's recommended preferred route, we now estimate the total construction and materials costs will range from \$6 million to \$8 million. We will have a better idea of total project costs once we identify our final route and can begin working on easement acquisition, mitigation estimates, project design (e.g., pole locations, pole material types), and other construction-related information, which are important cost factors.

What will the poles look like?

The type of pole to be used for the project has not been determined. Generally, a 115 kV transmission pole averages 65 feet to 75 feet in height depending on topography and distance between poles, which typically ranges from 350 feet to 400 feet.

PSE anticipates using some combination of wood or steel poles. Steel lattice towers will not be used for this project. Figure 2 shows an example 115 kV pole design. To view other examples poles, visit PSE.com/SammJuan115.



Figure 2. Example 115 kV pole design

What are the setback requirements for residential property?

State law requires PSE to design our transmission and distribution lines to meet or exceed requirements of the National Electric Safety Code, which provides minimum horizontal clearance distances from buildings. These distances vary based on the voltage of the wires rather than the support structures (poles, cross arms, guy wires, etc.). We have to design our 115 kV transmission lines and locate the structures that support them so our wires are at least 9.1 feet from buildings at rest and stay at least 6.1 feet from buildings as the wires move in the wind.

We typically design our lines and locate our poles in excess of these minimum requirements to allow for changes in our facilities over time.

How will PSE acquire right of way easements? How does the County Assessor take into account the new transmission line and value of the property?

PSE prefers to site projects along public rights of way or existing utility corridors wherever possible. PSE may need to acquire property or access to and use of private property via easements. When use of private property is required, PSE purchases easements and negotiates with each property owner based on an appraisal of the fair market value of their property and impacts the easement and facilities will have on the property.

Regardless of where a line might be located, the County Assessor assigns a value to the property. The Assessor would likely follow the same appraisal practices as any licensed appraiser and look at comparable sales with common characteristics such as zoning, lot size, condition of the improvements and neighborhood conditions. The Assessor may take easement payment into account in addition to the typical criteria used to determine value.

How tall can trees grow under 115 kV transmission lines?

Mature tree and vegetation height limits under 115 kV transmission lines generally range from 15 feet to 25 feet depending on the types of poles used. PSE is committed to working with landowners to provide assistance with vegetation management.

Other

Will the new transmission line cause radio and television interference?

In general, modern overhead transmission lines do not interfere with normal radio or TV reception. It is more common for distribution lines to be a source of radio frequency interference. If interference is identified with a transmission or distribution line, then the source of interference can be located and repaired.

Can the electromagnetic fields from the new transmission line affect my health?

All of us depend on electricity to meet basic needs such as heating, cooling and lighting of our homes. Wherever we use electricity, power frequency electric and/or magnetic fields (EMF) are present.

Over the past 30 years, there have been many scientific studies conducted to determine if power frequency EMF has any effect on human health. PSE stays up to date on this large body of research and relies on the findings of reputable international and national scientific and public health organizations that have reviewed the research on EMF. To date, no studies have established a cause-and-effect relationship between EMF and any adverse health effects in humans or animals. As a result of these findings, neither the U.S. government nor the state of Washington has established standards for public exposure to power frequency EMF.

At PSE, safety is always our top priority and we are committed to keeping our customers informed. To schedule an appointment to measure EMF in your home or to talk with an EMF expert, please contact PSE's Environmental Services Department at 425-456-2522. For more details about EMF studies, exposure limits and PSE's approach to EMF, visit PSE.com/safety/ElectricSafety/Pages/Electromagnetic-Fields.aspx.

Will the new transmission line make a lot of noise?

In general, 115 kV transmission lines do not produce noise like some higher voltage lines may. Over the years, transmission line construction improvements have helped minimize the likelihood of audible noises.

Project Need

Why is this project important to Redmond-Kirkland residents and businesses?

Demand for power is growing. The northern Redmond-Kirkland area electric system – called the Moorlands electric system – serves a population of nearly 150,000 residential, commercial and industrial customers. The Moorlands system faces two challenges – capacity (the ability to supply enough power) and reliability (ensuring we can provide power during times of peak usage or when parts of the system are out of service).

The Moorlands system transmission lines currently serve 12 local substations and the system is approaching its capacity limits. This means under certain conditions these transmission lines can overload, potentially resulting in outages to all 150,000 customers in the area.

To increase capacity and improve service reliability to customers, the new Sammamish-Juanita 115 KV transmission line will be installed. The Moorlands system will be reconfigured to transfer the electric load of two existing substations to another transmission system that has more capacity; thereby freeing up capacity on the Moorlands system. The new line will improve system reliability by adding an additional transmission pathway to the Moorlands system.

For More Information

- Visit: PSE.com/SammJuan115
- Email: info@sammjuan115.com
- Contact: Barry Lombard, Project Manager, at (425) 456-2230