

October 2014 Public Communications Summary

11/24/14

The following is a summary of feedback received by Puget Sound Energy (PSE) between Oct. 1 and Oct. 31, 2014 regarding the Energize Eastside project. During this period the project received 37 communications from the public. The communications were submitted via the project email address, the project voicemail, paper comment forms or the project website. Communications address a range of topics and often discuss more than one topic, segment and/or route. Therefore, many communications are categorized and discussed under multiple topics.

Feedback Frequency by Topic

The following table indicates the frequency with which various topics were discussed (total) and where a specific segment(s) or route(s) was mentioned when discussing this topic.* In October 2014, seven comments mentioned specific segments or route options.



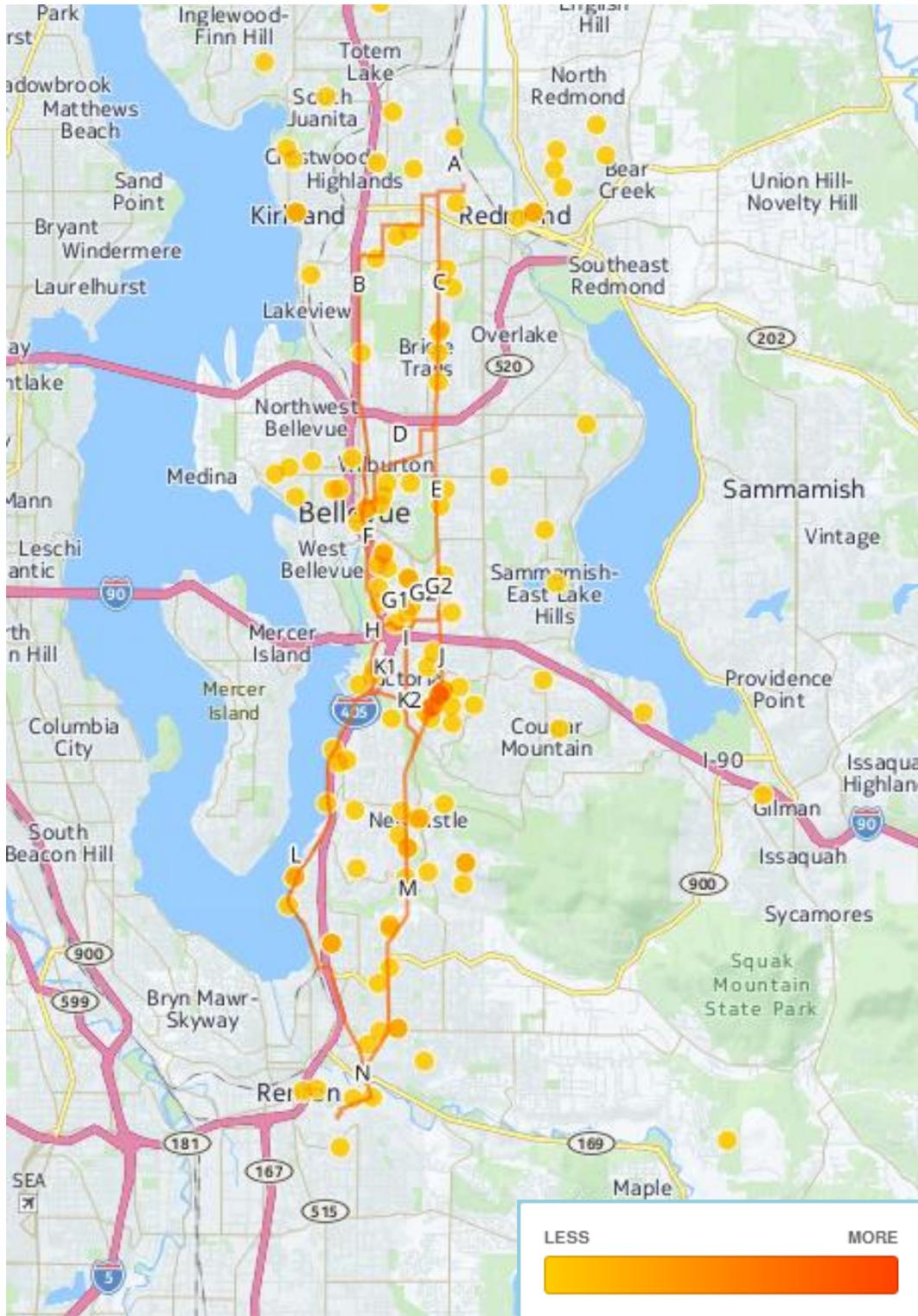
Table and map colors increase in intensity from yellow to red based on the frequency of occurrence.

Topic	Total	Segments						Route options			
		C	E	F	H	J	M	Ash	Oak	Redwood	Willow
Total by segment/route	37	1	1	1	1	1	2	2	1	2	2
Project need	7										
Route segments/options	7	1	1	1	1	1	1	2	1	2	2
Underground	7										
Visual	7	1	1			1	1				1
Design structure type/appearance	5				1					1	
Cost	4			1							
Community character	3										
EMF	3						1				
Health	2										
Safety	2										
Environmental	1	1	1			1	1				1

*Segments or routes that were not specifically mentioned in a communication are not included in this table. The four route options in the table are also included in the Community Advisory Group's preliminary route recommendation. Please note that communications often reference more than one topic and/or segment. As a result, totaling columns or rows will produce results that exceed the total number of communications received.

Feedback Frequency by Address

The following map indicates the frequency of communications based on the addresses of individuals and organizations providing communications during this period.



Summary of Most Frequent Topics

Below is a summary of the topics (in order from most to least common) with key examples provided of the comments or questions received and a response from PSE. Communication excerpts are verbatim (including typographical errors) and reflect feedback from individuals who have contacted PSE about the Energize Eastside project. Please note that many communications received are statements and not questions. PSE makes every effort to respond to questions individually and has included general responses below by topic; general statements of fact or opinion do not typically receive detailed responses.

Multiple communication topics may be referenced in the same or an individual communication. Where appropriate, those topics have been combined in the summaries below.

The inclusion of the excerpts is to maintain a record of the information and feedback received by PSE and is not a reflection of PSE's concurrence or disagreement with any statements in whole or in part. The communications summary reflects PSE's public outreach process to assist the Community Advisory Group in gathering feedback that will be used to inform a recommendation about route selection.

Project need

Comments have been submitted regarding whether the project is needed, specifically related to how much of the energy will be sold.

Excerpts:

- *How much energy that will go on these lines be sold?*
- *If the Eastside is growing so fast - then corporations/businesses building towers should be part of the solution and not the communities.*

Puget Sound Energy Response:

The existing transmission system serving the Eastside was last upgraded in the 1960s. Much has changed on the Eastside since then. Not only have communities grown and prospered, but the way we use electricity has changed— we plug in more devices, many of which didn't exist years ago. We also build large homes, which require energy for lighting, heating, and air conditioning. Despite improvements in energy efficiency and aggressive conservation efforts, demand for electricity has grown dramatically, and it's time for PSE's infrastructure to catch up.

Economic development, job growth and associated population growth on the Eastside depend on a robust electrical transmission system. Eastside population has grown by eight¹ times since 1960, and recent growth trends are expected to continue – in fact, the Puget Sound Regional Council recently predicted that the Eastside population will grow by more than a third between 2010 and 2040, with population in the Bellevue central business district growing by more than 280 percent by 2040.²

At the same time, this economic growth is straining our region's existing electric system. Growth studies project that demand for reliable power will exceed capacity as early as winter 2017/2018. PSE has

¹ Source: Puget Sound Regional Council 2013 Land Use Baseline: Maintenance Release 1 (MR1) Update

² In April 2014, the Puget Sound Regional Council updated their growth forecasts from 275 percent to 280 percent by 2040.

essentially outgrown the electric system that serves its communities. Without substantial electric infrastructure upgrades, tens of thousands of residents and businesses will be at risk of more frequent and longer outages.

PSE plans to have portions of Energize Eastside in service in 2017, with the project fully operational by 2018. Increased operating procedures (corrective action plans or CAPs) are being put into place to deal with unusual conditions in order to mitigate much of the increased risk for 2017 until construction is complete. However, this method of operations is not sustainable and won't work as the Eastside demand continues to grow. If the project is delayed, then PSE would have to implement CAPs to meet demand on a more frequent basis; however, these actions mean up to 60,000 customers are at an increased risk of power outages. The number of customers at risk of a significant outage will increase as demand grows.

Planning to meet our customers' electric loads is a risk-averse venture. PSE isn't just solving a peak-hour problem that could occur once every few years. The system is already stressed and operating at an elevated level of risk. The Energize Eastside project, combined with continued aggressive conservation, is the only way to alleviate that risk. The risk of building a project ahead of the unavoidable need pales in comparison to the risk of being too late. Electricity is a necessity that is at the foundation of the community's health and welfare, and delaying the project or relying on new, untested technology poses a health and safety risk to our communities.

The Energize Eastside project will directly serve local PSE customers. Like any utility, PSE's energy infrastructure is part of an interconnected system that carries some "flow-through" power. Between 3 and 8 percent of the energy flowing through the Energize Eastside line will flow through to Canada. This is an unavoidable side effect of being part of an interconnected system.

If power flows through the Energize Eastside lines to Canada or anywhere else, 100 percent of any resulting charges would be credited back to PSE customers in the form of a rate reduction. This is because PSE customers' rates include the cost of infrastructure, and PSE customers should benefit from the sale of electricity to other entities that use that infrastructure.

For more information, please see the [Eastside Need](#) page of the Energize Eastside project website as well as the [Needs Assessment Report](#).

Underground

Suggestions have been made that PSE construct the new line underground, including comments and questions about distribution lines and the cost to underground.

Excerpts:

- *I do not know the figures, but I'm assuming it is expensive to put lines underground, but in this day and age, that is the only proposal PSE should be considering.*
- *There has to be a better way than tall towers - why not underground?*
- *Our house was built in 1978 and all the power lines in our area were buried. Why can't this be done for future power lines rather than exposing them to the elements and all the neighbors?*

Puget Sound Energy Response:

Overhead transmission lines are PSE's first option for standard service due to their reliability and affordability, both of which are important to PSE's customers.

The buried lines in many neighborhoods are distribution lines, which carry lower electricity voltages from substations to customers. Roughly half of PSE's distribution lines are underground. PSE typically puts distribution lines underground in new developments because it is cost-effective to install buried cables at the time a neighborhood or building site is constructed and the developer typically pays the cost difference between overhead and underground lines.

Transmission lines, like the one PSE is planning to construct on the Eastside, are high-voltage lines that carry electricity from generation plants to substations or from substation to substation. Unless a community or local jurisdiction requests the lines be put underground and is willing to pay the cost difference, state-approved tariff rules require PSE to construct overhead transmission lines. This is consistent with the cost-sharing philosophy applied with distribution undergrounding.

The biggest challenge to underground transmission lines is cost. The construction costs for an overhead transmission line will be about \$3 million to \$4 million per mile, versus \$20 million to \$28 million per mile to construct the line underground. These figures only take engineering and construction costs into consideration, and do not include additional costs such as land acquisition, traffic control, relocation of existing underground facilities that may conflict with an underground transmission line, future increased operation and maintenance costs, or taxes and overhead costs. These additional costs can be very significant – sometimes two to three times the construction costs.

When a transmission line is constructed overhead, project costs are distributed evenly between PSE's 1.1 million customers. If a transmission line were to be constructed underground, PSE can't justify asking customers across its entire service territory to pay the significant cost increases for a local aesthetic benefit. That's why, per state-approved tariff rules, the local jurisdiction or customer group requesting underground transmission lines must pay the difference between overhead and underground costs.

The tariff is in place to protect all of PSE's customers from substantial bill increases that would result from frequent requests to underground or relocate transmission lines (view the full tariff: [Schedule 80, Section 34](#)). PSE recognizes some of its customers are in the financial position to pay the substantial increase in rates to underground this project and others, but there are also many low- and fixed-income customers who depend on affordable rates. It is PSE's responsibility to balance the needs of all customers and provide service that is both reliable and affordable. These regulations are founded in fundamental public policy, which hinges on fairness and reasonableness for all customers, regardless of income. Having the local community pay to underground power lines for the aesthetic benefit is not new – it is the same concept our communities follow today when a new development undergrounds the lower voltage distribution power lines.

In addition to cost, there are other factors to consider. For example:

- Putting power lines underground can have bigger environmental and neighborhood effects. Undergrounding transmission lines requires extensive vegetation removal, trenching and installation of large (20 feet x 30 feet) access vaults every quarter mile and can be very disruptive to neighborhoods and the environment.
- Because they need additional cooling and insulation, underground transmission lines are typically installed in concrete duct banks, which can extend 5 or more feet below the surface. These require an easement 30 feet to 50 feet wide, which, unlike with overhead lines, must be completely free of trees.

- Underground lines typically take longer to repair, and repairs are more difficult. When an overhead line fails, crews can often repair it within hours. Repair of underground transmission lines can take days and even weeks, depending on the repairs that need to be made.

All of these factors are why PSE is proposing to construct the Energize Eastside project overhead.

Read more in PSE's [undergrounding](#) fact sheet.

Route segments/options

Feedback has been received regarding which specific routes should or should not be chosen for the new transmission lines.

Excerpts:

- *NO to "ASH"*
- *Voting "no" to Ash, Oak and Redwood*
- *I would recommend Willow as the preferred route.*

Puget Sound Energy Response:

PSE believes it is important to complete a thorough analysis of all feasible route options in the project area so when the time comes to select a preferred route, the company is confident that the route is the best option for both the community and PSE. PSE felt it would be shortsighted to simply build in the existing corridor without first looking at other options.

Upgrading an existing transmission system in a dense urban and suburban area poses unique challenges, and there is no route option that completely avoids effects to Eastside communities. As a result, PSE is committed to engaging the community to better understand and address those challenges.

PSE is currently engaged in a year-long public outreach and route selection process, which includes working with a Community Advisory Group to consider community values when evaluating route options. PSE anticipates selecting a preferred route in early 2015 that balances the needs of customers, the local community and PSE. To explore the route options included in the Community Advisory Group's preliminary route recommendation, please visit the online [interactive project map](#).

Because the Community Advisory Group is still working to finalize their route recommendation, PSE doesn't yet have a preferred route or detailed design. However, once a preferred route has been selected, PSE will notify property owners, residents and businesses along the route about the project's next steps. PSE's Energize Eastside team is committed to working with property owners, businesses and residents on pole locations and design, access and other issues, and to provide mitigation when appropriate and/or necessary.

Visual and design structure type/appearance

Concerns have been raised about the visual effect of the transmission lines and poles.

Excerpts:

- *I am appalled that anyone in their right mind would consider adding these power lines to residential area neighborhoods and destroy the beauty of our city.*
- *I am trying to determine the visual impact on segment H. In the photo simulations available on your site, the pole are much higher than the trees canopy.*

- *The impact on our beautiful Somerset views will be beyond description.*

Puget Sound Energy Response:

Delivering a project like Energize Eastside in a dense urban and suburban area is challenging, but PSE is committed to working with the communities involved to minimize effects to the maximum extent practicable.

Aesthetics and views could not be included in the initial route screening effort because there is no publically available data for these factors. However, visual effects will be considered during the environmental review process that will be conducted to comply with the State Environmental Policy Act (SEPA). Additionally, photo simulations have been developed as a part of the ongoing public outreach process. To view the photo simulations, please visit the [Energize Eastside Photo Simulations webpage](#). PSE will not build lattice towers for this project.

The placement or “spotting” of pole structures will be dependent upon factors such as available right of way width, location of access routes, and obstacle avoidance. PSE typically has some flexibility when it comes to where poles are placed on a property. Whenever possible, PSE will work with property owners to identify the option for pole placement with fewer potential effects. In some cases, strategic planting of vegetation, such as trees with larger spreading crowns, can be used to diffuse and mitigate view effects. In turn, the height, loading and overall size of each structure will be greatly affected by location. Additionally, recognized areas of environmental significance will be identified and avoided where practicable.

While PSE does not have the preferred route or final design yet, the use of steel monopoles made of galvanized or weathering steel is anticipated. The exact measurements of poles and foundations will not be known until after a final route is selected and detailed design has been completed. The poles are generally estimated to be between 85 feet and 130 feet, with diameters between 3 feet and 7 feet, but they could be taller or shorter depending on specific circumstances. Note that the pole diameter estimate refers to the diameter of the pole itself; if poles require a foundation, the overall footprint of the pole would increase. PSE will be asking for community feedback on various pole options during the design phase of the project. Pole height will depend on several factors such as topography and obstacles, wire tension, and the distance between poles, which could range from 200 feet to 1,000 feet. In general, taller poles allow for longer distances between them.

Community character

Comments were made about the effect of the project on unique neighborhood characteristics.

Excerpts:

- *This will impact our neighborhood values.*
- *If allowed, PSE will make our community and neighborhoods look like industrial zones that its citizens will be forced to live with for generations to come.*
- *A giant industrial power line has no place in a residential neighborhood.*

In an urban area like the Eastside, there are unfortunately no corridors running north/south that completely avoid effects to residential neighborhoods. There is no easy way to connect the substations in Redmond and Renton; there are challenges with each option. PSE knows that it will be bringing changes to any of the neighborhoods where lines are installed. For that reason, PSE and the Energize Eastside team are actively engaging the public to discuss routing, effects, and potential design considerations to

reduce these effects while the company moves forward with this project that is vital to maintaining reliable power for all of the customers in the area.

PSE actively encourages all potentially affected community members to participate in ongoing community events and provide feedback on the various route options. In March and April, PSE hosted a series of Sub-Area Workshops for neighborhoods to provide feedback on the proposed transmission line segments and to discuss the evaluation factors most important to their communities. In April and July the community has had the opportunity to share their questions and comments at question and answer sessions. The public has also had opportunities to participate in online and in-person open houses, as well as online surveys to provide feedback on the possible route options. Read more in the [Summer 2014 Open House and Survey Summary](#) and previous [Public Communications Summaries](#).

PSE will continue the public involvement process for Energize Eastside through future phases of the project, including fieldwork, design, environmental review, permitting, and pre-construction and construction.

Electric and Magnetic Fields, Health, Safety

Concerns have been presented about the potential for negative health and safety effects caused by the presence of high voltage transmission lines, especially near schools.

Excerpts:

- *These poles will cause increased EMF radiation for homes nearby (and Tyee Middle School), and increased corona pollution for residents across a broad area around the lines.*
- *I have read conflicting arguments regarding the safety of high voltage power lines. However, if there is even the slightest possibility of them affecting the health of children or adults, they absolutely should not be placed near a school.*
- *Electromagnetic fields are in close proximity to a highly populated area. Why should the health of those who live in these residences and the property values of these owners be de-valued so Bellevue can get more power?*

Puget Sound Energy Response:

At PSE, safety is always the top priority. Many customers have questions about electric and magnetic fields (EMF) and the team works to provide access to information on EMF in a few different ways.

Specifically, we:

- Follow all applicable federal, state, county and city rules, regulations and standards when constructing power facilities for the safe and reliable delivery of electric service;
- Remain informed about important developments in EMF research from reputable, international and national scientific and public health organizations and agencies that have reviewed the research on EMF; and
- Share accurate and objective information about EMF with PSE's customers.

Over the past 45 years, there have been many scientific studies conducted to determine if EMF from transmission lines (called "power frequency EMF") has any effect on human health. To date, this large body of research does not show that exposure to power frequency EMF causes adverse health effects.

Additionally, PSE understands that you, and other local residents, may have more questions about electric and magnetic fields. PSE has hired Drew Thatcher – an independent, board-certified health

physicist – to address more specific EMF questions. If you or your neighbors would like to ask questions of Drew, the Energize Eastside team would be happy to connect you with him for more information.

Environmental

Concerns have been shared about effects on wetlands.

Excerpts:

- *My feedback is to follow the main traffic corridors of Factoria Blvd and Richards Road rather than through the west side of the 405 freeway impacting wetlands and view properties on Woodridge Hill.*

Puget Sound Energy Response:

As with all of PSE's projects, PSE is committed to minimizing, where practicable, environmental effects that can result from construction, operation and maintenance of electric transmission lines. When effects cannot be avoided, PSE provides appropriate restoration or mitigation. For example, regardless of the route selected, federal, state, and local regulations do not allow construction stormwater that exceeds specific water quality parameters to run off into waters of Washington state. Erosion Control Planning will be incorporated into the project design. This is standard practice, as all large-scale projects are required to assess potential drainage effects. Once the route is selected, a detailed engineering analysis will be performed to address possible stormwater issues. Transmission lines typically have a small impervious footprint and therefore are not a major contributor to stormwater runoff. Runoff from PSE's infrastructure facilities will also comply with the appropriate stormwater regulations.

Throughout the design and construction of the Energize Eastside project, PSE will collaborate with local, state and federal agencies to ensure compliance with all applicable regulations. This includes meeting all local permit requirements and undergoing environmental review pursuant to the State Environmental Policy Act (SEPA). The SEPA process is used to help decision-makers understand a project's potential to cause effects on the natural and built environments. For example, potential effects on wildlife such as bald eagles would be identified during that process, along with the appropriate restoration or mitigation actions. Additionally, PSE has an extensive avian protection program and often includes protective measures to power line design. More information on this program can be found on PSE's [Protecting Birds webpage](#).

During construction, each segment will undergo detailed siting of structures to avoid or minimize effects to the extent practicable. PSE will perform a variety of engineering analyses and studies when designing the transmission lines in order to understand the environment where the structures will be located. For the segments that are selected, PSE will perform comprehensive geotechnical evaluations of each corridor, and the design of the new transmission lines will take into account various factors such as soil type and strength, groundwater, and other factors.

Since PSE has not yet determined the selected route, where poles will be placed, or what exact pole structures will be used, it is too early at this point to know about effects and mitigation. Please visit the Energize Eastside [Environmental Review](#) webpage for more details.