

## February 2014 Public Communications Summary

5/28/14

The following is a summary of feedback received between Feb. 1 and Feb. 28, 2014. During this period the Energize Eastside project received 167 communications from the public. The communications were submitted via the project email address, the project website, or at community meetings. Communications address a range of topics and often discuss more than one topic and/or segment; 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) was mentioned when discussing this topic\*. Approximately half (86) of the 167 communications received during this period mentioned specific segments.

**LESS**  **MORE**

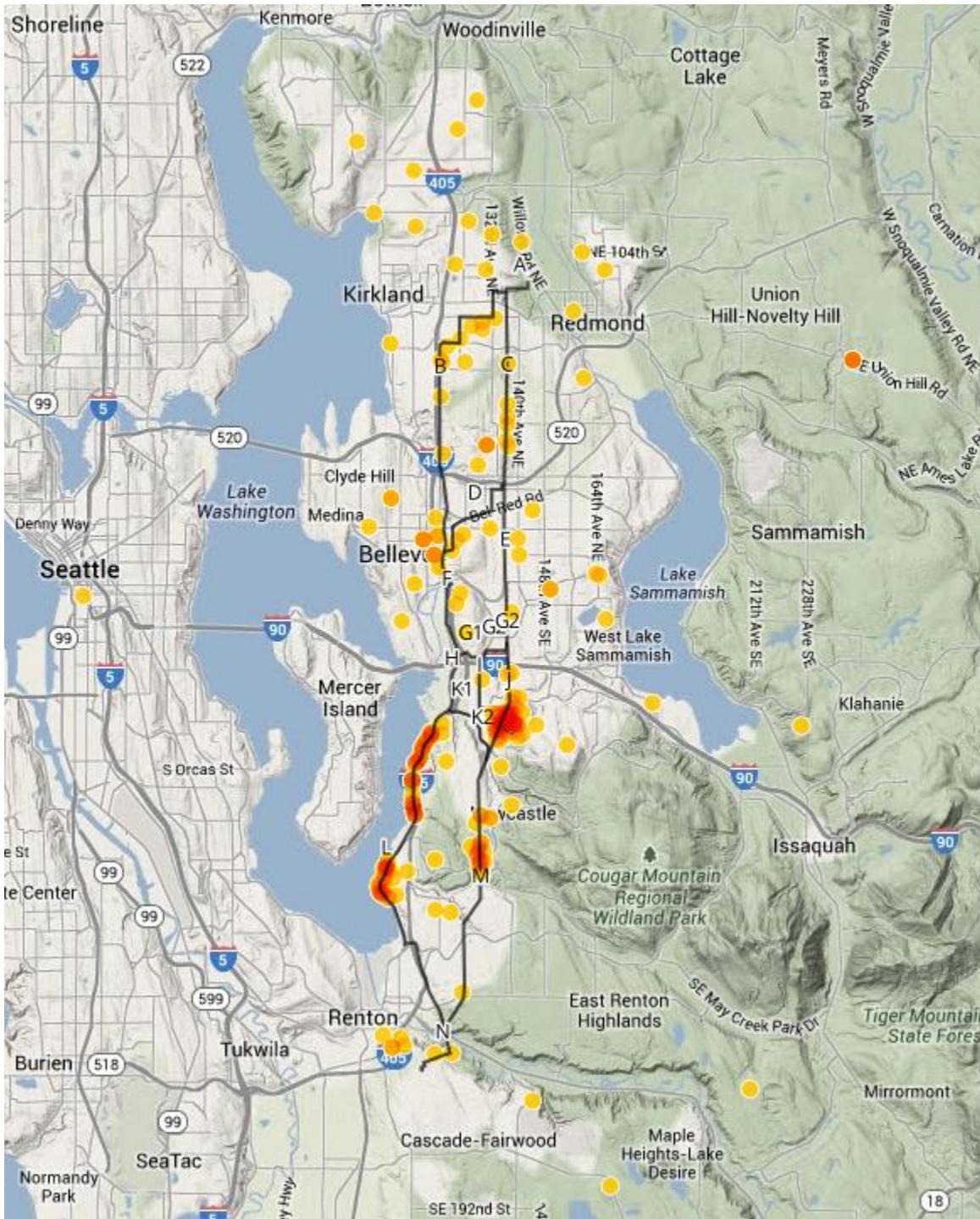
Table and map colors increase in intensity from yellow to red based on the frequency of occurrence.

| Topic                            | Total | A | B | C | D | E | F | G1 | G2 | H  | I | J  | K1 | K2 | L  | M  | N |
|----------------------------------|-------|---|---|---|---|---|---|----|----|----|---|----|----|----|----|----|---|
| <b>Total by segment</b>          | 167   | 1 | 1 | 2 |   | 1 |   | 1  | 2  | 19 | 8 | 55 | 1  | 7  | 40 | 11 | 1 |
| Visuals                          | 66    | 1 |   | 1 |   | 1 |   | 1  | 2  | 15 | 7 | 35 |    | 4  | 24 | 3  | 1 |
| Property values                  | 54    | 1 |   | 1 |   | 1 |   | 1  | 2  | 16 | 6 | 34 |    | 4  | 21 | 3  | 1 |
| Underground                      | 49    |   |   |   |   |   |   |    | 1  | 11 | 3 | 27 |    | 1  | 14 | 2  |   |
| Health                           | 31    |   |   |   |   |   |   | 1  | 1  | 16 | 4 | 19 |    | 2  | 15 |    |   |
| Cost                             | 30    | 1 |   | 1 |   | 1 |   |    |    | 10 | 1 | 14 |    |    | 16 | 3  | 1 |
| Community character              | 29    |   | 1 |   |   |   |   | 1  | 1  | 11 | 4 | 19 | 1  | 3  | 11 |    |   |
| Design structure type/appearance | 25    |   |   |   |   |   |   |    |    | 1  | 1 | 6  |    |    | 4  | 1  |   |
| Electromagnetic fields           | 14    |   |   |   |   |   |   |    | 1  | 1  | 1 | 4  |    | 1  | 1  | 1  |   |
| Safety                           | 14    |   |   |   |   |   |   |    |    |    |   | 3  |    |    | 4  | 4  |   |
| Real Estate                      | 13    |   |   | 1 |   |   |   |    |    |    |   | 2  |    |    | 7  | 1  |   |
| Environmental                    | 12    |   |   |   |   |   |   |    |    |    |   |    |    |    | 6  | 2  |   |
| Alternative technology           | 7     |   |   |   |   |   |   |    |    |    |   | 2  |    |    |    |    |   |
| Construction                     | 7     |   |   |   |   |   |   | 1  | 1  | 1  | 1 | 1  |    |    | 3  |    |   |
| Project need                     | 5     |   |   |   |   |   |   |    |    |    |   | 2  |    |    |    |    |   |
| Recreation                       | 5     |   |   |   |   |   |   |    |    |    |   |    |    |    | 3  |    |   |
| Geology/soils/steep slopes       | 4     |   |   |   |   |   |   |    |    | 1  | 1 | 1  |    |    | 1  |    |   |
| Noise                            | 4     |   |   |   |   |   |   |    |    |    |   | 2  |    |    | 1  | 1  |   |
| Permitting                       | 4     |   |   |   |   |   |   |    |    |    |   |    |    |    | 2  | 1  |   |
| Vegetation                       | 4     |   |   |   |   |   |   |    |    |    |   | 1  |    |    | 1  |    |   |

\*Please note communications often reference more than one topic and/or segment. As a result, totaling columns or rows will likely produce results that do not equal the total number of communications received. Additionally, some communications referencing a topic did not reference a segment.

### Feedback Frequency by Address

The following map indicates the intensity 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 of the comments or questions received and a response from PSE. The communication excerpts are verbatim (including typographical errors) and reflect input from individuals who have contacted Puget Sound Energy 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 communications. 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 input received by PSE and is not a reflection of PSE's concurrence or disagreement with any statements in whole or in part. The communication summary reflects PSE's public outreach process to assist the Community Advisory Group in gathering input that will be used to inform recommendation(s) about route selection.

### Visuals and Recreation

Concerns have been raised about the potential for impacts to public and private property and the surrounding landscape.

#### **Excerpts:**

- *In addition to health concerns we are very resistant to having larger, more imposing towers and lines obstruct our view and the diminish the value of our property.*
- *It will be very unsightly and there is no excuse to use this route when a viable one that will not impact the Kennydale neighborhood or views is just a few miles away.*
- *And why would PSE choose to "defile" the most beautiful two mile stretch of roadway in the city of Renton?*
- *If the new power lines are built in our neighborhood, the increased height of the lines will obstruct our view significantly.*
- *I believe high voltage wires visible between I-405 and Lake Washington would negatively affect a great view of the lake enjoyed, not only by this writer, but by all who travel on the freeway and others who live with a view of Lake Washington.*

#### **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 impacts 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 impacts will be considered during the environmental review process that will be conducted to comply with the State Environmental Policy Act (SEPA). Additionally, photo simulations are currently being developed as a part of our ongoing public outreach process. As these simulations are complete, they are being shared publicly by being posted on our project website.

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 we can, we will work with property owners to identify the least impactful option for pole placement. In some cases, strategic planting of vegetation, such as trees with larger spreading crowns, can be used to diffuse and mitigate view impacts. 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.

### **Property values**

Concerns have been raised about the potential for significant impacts to private property values and whether those impacts would be compensated for.

#### **Excerpts:**

- *Will PSE compensate home owners for their property value loss?*
- *This would have a significant impact to property values for us and many others in our neighborhood.*
- *If 125 feet tall poles and wires are placed on Factoria Boulevard, it will destroy our view of the lake and Seattle and devalue our home.*
- *Is the negative effect on property values taken into account in the route evaluation? The affect of the high voltage wires along their existing route is most likely already reflected in nearby property values. The negative effect on property values along a new route would be new and incremental.*
- *Somerset is unique. The proposed line will go through right at the chest of the Somerset hill. The increased height will make the poles and wires the most prominent feature looking in or out of the community and significantly reduce many property values. Which also may lead to possible litigation.*

#### **Puget Sound Energy Response:**

When evaluating possible locations to site utility infrastructure, property values of the adjacent community are not taken into consideration because it is socially inequitable to make infrastructure siting decisions based on income-related considerations such as high-end, moderate or low-value housing. Similarly, a project’s potential effects on surrounding property values are excluded from consideration of impacts to the environment under Washington’s State Environmental Policy Act (SEPA), Ch. 43.21C RCW. Property values are comprised of many factors, including economic outlook and location, as well as proximity to jobs, schools, transportation, parks and other amenities. Out of fairness to and in consideration for customers of all income levels, PSE does not use property values as a factor when selecting routes.

Attempting to determine the impact of a transmission line on property values outside of the context of a purchase and sale transaction requires a certain degree of speculation. Due to the unique qualities of each property, there’s no ‘one size fits all’ formula. PSE does not compensate nearby property owners for perceived loss of property value due to the installation of energy infrastructure. In this respect, PSE is no different than any other public or private developer. This approach is consistent with Washington law.

If new easements are required to site our facilities on private property, PSE will compensate the affected property owners based on fair market value.

### **Underground**

Suggestions have been received that PSE construct the new line underground, along with questions about undergrounding costs and feasibility.

**Excerpts:**

- *Can you point me to the basis of PSE's claim that the community has to pay for the incremental undergrounding of these NEW transmission lines?*
- *Underground sounds great - what about actual price quotes and how much it would cost the individual homeowner vs. overhead? Hard to vote for one or the other without the REAL \$ quote per home.*
- *If PSE undergrounds the proposed transmission route, would existing secondary transmission wires also be undergrounded?*
- *Even if alternative routes are not selected, PSE should try to bury the lines underground.*

**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 our customers. Unless a community or local jurisdiction requests the lines be put underground and are willing to pay the cost difference, regulations require PSE to construct overhead transmission lines. These regulations are founded in fundamental public policy, which hinges on fairness and reasonableness for all customers, regardless of income.

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 overheads. 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, we can't justify asking customers across PSE's entire service territory to pay the significant cost increases for a local aesthetic benefit. That's why, when an overhead line is a viable option like in the case of the Energize Eastside project, our tariff regulated by the Washington Utilities and Transportation Commission requires the local jurisdiction or customer group requesting that the transmission line go underground to pay the difference between the overhead and underground costs.

The tariff is in place to protect all of our 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](#)). We recognize some of our customers are in the financial position to pay the substantial increase in rates to underground this project and others, but we have 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 impacts. 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.

- Underground lines typically take longer to repair, and repairs are more difficult. When an overhead line fails, our 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 our [undergrounding](#) fact sheet.

### **Health and Electromagnetic fields**

Concerns have been presented about the potential for negative health and safety affects caused by high voltage transmission lines. While these are generally separate categories, communications typically relate these topics very closely.

#### **Excerpts:**

- *I am very concerned about the potential of increasing the capacity of the power lines that run directly behind our house, we worry about our health and the health of our grandchildren that stay with us often.*
- *Furthermore, these lines can pose serious health hazards especially with higher wattage going through.*
- *As you are well aware, people continue to be worried about the health effects of electromagnetic radiation, whether the science is clear or not.*
- *The link between various medical conditions & over-head power lines is thought to be present.*

#### **Puget Sound Energy Response:**

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.

At PSE, safety is always our top priority. Many customers have questions about EMF and our 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 our customers.

Additionally, PSE understands that you, and other local residents, may have more questions about electromagnetic 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, we would be happy to connect you with him for more information.

Also, in the next few months we will have information on EMF measurements in the existing utility corridors (what magnetic field measurements exists today) and modeling numbers with the new transmission line. Once the EMF modeling study is complete, it will be posted on our project website.

## Cost

Feedback varies from suggestions to build the lowest cost alternative to ideas about improving real estate values.

### Excerpts:

- *After looking it all over our conclusion is that the intelligent and logical choice of routes is to build upon the existing easement under Route M. It is already cleared, graded, maintained, accessible, and leads directly to the Bel-Red corridor which will be the next big area of expansion for the Eastside. This route should save you and your customers millions of dollars since all the preparation work has already been done for you.*
- *Take the least expensive route.*
- *If the re-routing can eliminate the existing transmission lines in Somerset area, the free-up land can be sold at a high value for development due to Somerset's premium real estate. This revenue can be used to offset the project cost.*
- *We would like these power lines to be buried if the additional cost can be covered in an equitable fashion.*
- *What would be the cost of running the proposed transmission line from Redmond to Lake Washington, then via underwater cable/line to Renton and then to the Talbot terminal?*

### Puget Sound Energy Response:

Upgrades or additions to the electric infrastructure are shared by all of PSE's 1.1 million electric customers and paid for over time (unless a more expensive upgrade or addition is made to benefit only a certain area or community, such as undergrounding a line for the purpose of preserving aesthetics). Impacts to individual residential power bills will be small. We don't yet know the total cost of the project, but estimates range from \$150 million to \$300 million. While there are many factors that go into determining the individual customers' monthly bill increase, we roughly estimate that it will range from \$1 to \$2 per month for typical residential customers. Once we select the route and determine the final design and alignment, we will have a better idea of the total cost.

## Community character

Concerns have been presented about impacts to unique community characteristics, primarily focused on the Somerset community.

### Excerpts:

- *Somerset is unique. The proposed line will go through right at the chest of the Somerset hill. The increased height will make the poles and wires the most prominent feature looking in or out of the community and significantly reduce many property values.*
- *The current powerline through Somerset community is already a very bad choice, and Somerset community has been taking this burden for decades. Any consideration of expanding the powerline to higher poles and higher voltage is a senseless against Somerset community. This is time for some other communities to share the burden.*
- *Putting these poles up in a view community seems counterintuitive. This is a view community in Bellevue - people choose to live here on this hill because of the amazing views and in reality there are not many places in our community where views like this even exist!*
- *The Somerset community already has existing 115-kilovolt lines and the Olympic Pipeline running over and under our homes and yards, so our neighborhood already shoulders more than its fair share of the region's infrastructure needs.*

- *The neighborhood was built for the views. We don't even have street lights as the original developers were protecting the views. Replacing the existing lines shouldn't be a problem if kept to the same size and putting them underground would be a benefit to all.*

**Puget Sound Energy Response:**

We know that we'll be bringing changes to any of the neighborhoods where we install lines. We're actively engaging the public to discuss routing, impacts and potential design considerations to reduce these impacts while we move forward with this project, which is vital to maintaining reliable power for all of the customers in the area.

We encourage all potentially impacted community members to participate in ongoing community events to provide feedback on the various route segment options. In March and April, PSE hosted a series of Sub-Area workshops for neighborhoods to provide input on the proposed transmission line segments and to discuss the evaluation factors most important to their communities. In an urban area like the Eastside, there are unfortunately no corridors running north/south that completely avoid effects to residential neighborhoods. We know there is no easy way to get from Segment A to Segment N; there are challenges with each option and that is why we are first learning what is important to our customers and the communities we may be affecting before selecting a route.

**Design structure type/appearance**

Concerns have been raised about the appearance of structures.

**Excerpts:**

- *If alignment M is selected, would these existing 115 KV lines be mounted on the new 230 KV poles? This is an important consideration, because if the existing "double H" poles were left in place along with the new 230 KV poles, the route would look very cluttered with transmission lines.*
- *Are there any examples of routes through residential areas in the Seattle region where these poles have been used?*
- *I'm interested in the scale [of poles] compared to houses and other buildings.*
- *When will we have a rendering of what the power poles/lines might look like? How tall will they be?*
- *Will the existing six 115 KV wires mounted on four poles be replaced by one pole to carry six 115 KV wires plus three 230 KV wires?*

**Puget Sound Energy Response:**

While we do not have the preferred route or final design yet, we anticipate using steel monopoles made of galvanized or weathering steel. We estimate the poles will generally be between 90-125 feet, but they could be taller or shorter depending on specific circumstances. PSE will be asking for community feedback on these options. Pole height will depend on several factors, such as topography and obstacles, wire tension, whether a pole is located in a straight line or at a corner, and the distance between poles, which could range from 200 feet to 1,000 feet. In general, the taller the poles, the longer we can make the distance between them.

We will not build lattice towers for this project. To view sample pole images and photo simulations from each Sub-Area, visit the [Design](#) page on our website.

## Environmental, Permitting and Vegetation

Questions about the environmental review process and impacts to wildlife and vegetation have also been presented.

### Excerpts:

- *As to route L or M, Route L creates a new corridor impacting a new group of customers; involves land used by eagles and other wildlife raising issues of permitting, EPA and legal challenge.*
- *Will an Environmental Impact Statement be required for the rail corridor option?*
- *The rail corridor runs across the Super Fund lumber treatment cleanup site, how will digging in this area impact the runoff into the lake?*
- *Are there any studies available on the impact to the Lake's eagle population nesting sites and these new lines?*
- *Are wildlife areas or wetlands valued more than neighborhoods or views?*

### Puget Sound Energy Response:

As with all of our projects, PSE is committed to minimizing, where practicable, environmental impacts that can result from our construction, operation and maintenance of electric transmission lines. When impacts cannot be avoided, PSE provides appropriate restoration or mitigation. For illustration, 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 the 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 impacts. 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. Additionally, runoff from PSE's infrastructure facilities will comply with the appropriate storm water manuals.

As we continue design 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 conducting an environmental review as part of the State Environmental Policy Act (SEPA). The SEPA process is used to help decision makers understand a project's potential to cause impacts to the natural and built environments. Potential effects on wildlife such as bald eagles would be identified during that process, along with appropriate restoration or mitigation. 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 our [Protecting Birds web page](#).

Please visit our [Environmental Review](#) web page for more details.

## Safety

Safety concerns related to the Olympic Pipeline and its proximity to the proposed transmission line have been raised.

### Excerpts:

- *The installation of the larger poles and conductors are not only intrusive and the resulting effect on property values, they are a legitimate concern over the increase in radiation, the close proximity of the Olympic pipeline running parallel to it in this area.*
- *The Olympic pipeline runs along much of the proposed route and with the height of the new poles and proximity to the pipeline, an explosion and fire due to having hydrocarbons and electricity are*

*a much greater probability with this line when we have a major earthquake in the region. The height of the poles also increases the changes of the cable landing on homes due to wind or geological events.*

- *Danger to the gas pipelines and potential risk explosions.*
- *Please provide detailed descriptions (and schematics as needed) showing how PSE would:*
  - *Reduce the risk of electrical shock from the high-pressure petroleum pipes and appurtenances, including from the casing vents at the road crossings.*
  - *Prevent increased current-induced corrosion and risk of leakage or catastrophic rupture of the pipelines. The neighborhood was built for the views.*
- *Has PSE conducted any kind of expert risk assessment and analysis regarding the hazards of conducting this project over ancient pipelines that transport highly flammable jet fuel through the Olympus corridor, and if so, by whom and when, and will you share the results of that risk assessment and any reports? If such a risk assessment has not yet been done, why not?*

**Puget Sound Energy Response:**

Safety is always our top priority at PSE. Across North America, significant high-voltage electric transmission lines (even at voltages much higher than 230 kV) exist parallel and adjacent to petroleum product pipelines like the Olympic Pipeline and have been operated safely in close proximity for many decades.

PSE is also a natural gas company. PSE and its contractors are very familiar with concerns regarding pipeline safety and employ safe construction practices when performing work in the vicinity of pipelines. Our experiences and those of other utilities and pipeline companies have demonstrated that power lines can and do safely occupy the same corridor as pipelines.

PSE has a long history of working closely with Olympic. We've shared this corridor with Olympic Pipeline for decades and have a shared interest in the protection and safe operation of the facilities in the corridor. As an example, PSE and Olympic wrapped up a project in 2010 that's similar to Energize Eastside. We replaced existing H-frame poles with new poles and 230 kV lines in an existing easement shared with the pipeline. The Energize Eastside project manager, Leann Kostek, safely managed construction of the Sedro Woolley-Horse Ranch 230 kV project that ran from Skagit County to Snohomish County.

PSE also has a history of moving pipelines when required and understands the construction and safety issues facing such moves. For example, PSE is moving its natural gas pipeline for the Alaskan Way Viaduct construction. Additionally, PSE and Olympic are working with Sound Transit to move poles and the pipeline for the East Link project.

Regarding earthquakes, we take geologic conditions, including potential for earthquakes, into the design of electric transmission lines. When designing any transmission structure, engineers consider a wide range of loading scenarios (e.g. load cases) that the structure may experience over its service life. While engineers consider these load cases, we are concerned with identifying and applying the most stringent load cases, or combinations thereof, that govern the strength requirements of the structure to withstand these loads. In the experience of transmission engineers, high wind events, wind combined with ice, or extreme ice loads govern the design of structures. It is standard utilities practice to design transmission structures to withstand wind/ice combination loads which are considered more stringent than the loads induced due to ground motion.

## Real estate

Additional concerns have been raised about a range of subtopics, with a number of them focused on the existing rail corridor.

### Excerpts:

- *I understand that PSE purchased additional easement rights along route L for \$16 million--is this true? If so, when and what were the extents of the rights and from whom was it purchased?*
- *Has PSE done an in person inspection of the property on the rail corridor? While on paper it may reflect 40 to 50 feet on each side of the rail line in reality many areas do not have that width.*
- *How will the PSE easement impact the easement for High Speed Rail, Rails to Trails and which easement has priority?*
- *Are there no other easements along route L, or was this the first? I see nearby gas lines, but maybe these are outside of the corridor.*
- *Since the 1950s many have maintained the easement under the current power line and have incorporated this in their yard landscape.*

### Puget Sound Energy Response:

At this time, we're in the early stages of the public route discussion, so we don't have the route configuration identified yet. Nonetheless, when selecting a route for a new power line, PSE considers it an opportunity to locate the line where other lines already exist whenever practical. That said, the existing right-of-way is just one of many factors we look into when siting new power lines. In a dense urban area like the Eastside, there is no easy solution to selecting a route. For that reason, we felt an obligation to identify all reasonable route options within the project study area. This was done by using a computer-based modeling tool to analyze key criteria like geographic barriers, land uses and impacts to the environment. Based on this analysis, route segments were identified that included an existing corridor and road rights-of-way.

If the use of private property is required, PSE will negotiate fair market value purchase of easements with the affected property owners. Our preference is to arrive at mutually acceptable terms outside of court rather than using condemnation and we will work cooperatively with property owners to that end. If a legal path towards resolution is necessary we will treat all landowners fairly, with dignity and respect and we will continue to negotiate in good faith throughout the process.

At this time it is too early to say whether we'll need additional easements; existing easements do not require additional compensation. Like any developer, PSE must comply with local zoning codes and development standards and obtain all necessary permits for the project. We are seeking input from the communities and our customers throughout the siting process to consider designs which could minimize impacts. In general, PSE prefers to site projects along public rights of way or existing utility corridors wherever possible.

## Alternative technology

Questions and suggestions have been posed regarding ways to address the project need without a new transmission line.

### Excerpts:

- *Have we already migrated street lights to LED's like LA has?*
- *Please advise if you have considered alternatives.*
- *Please think of an alternate solution for your project.*

- *Has PSE explored the feasibility of underwater cables which could run, for example, the length of Lake Washington or Lake Sammamish?*
- *Has PSE and/or SCL investigated about possible design configurations that can accommodate both PSE and SCL?*

**Puget Sound Energy Response:**

PSE has taken significant steps to get the maximum benefits out of its electric system. In fact, through upgraded lighting, appliances and equipment, increased weatherization, and energy-efficient building technologies, PSE customers helped us save enough electricity to power 30,000 homes in 2012.

However, conservation alone won't create the capacity to keep up with our region's growth. The Eastside economy and population are growing far faster than our conservation efforts can keep up with. Without substantial electric infrastructure upgrades, tens of thousands of residents and businesses will be at risk of more frequent and longer outages. The problem we face is not that we don't have enough energy to power Eastside communities. Instead, the problem we need to solve is transporting the energy we have to the fastest-growing places and the people who need it. The Eastside is growing faster than any other region in Washington, which is straining our region's electric system. Growth studies project that demand for reliable power will exceed capacity as early as 2017, increasing the possibility of outages for as many as 60,000 customers in the Eastside.

You can read more about the alternatives studied in our [needs assessment report](#), [solutions report](#), [non-wires solution analysis](#), and much more on the [Energize Eastside project website](#).

**Construction**

Questions and suggestions have been submitted regarding ways to avoid and/or address construction impacts.

**Excerpts:**

- *Of the routes proposed, we prefer the railroad route composed of the H - L segments, which would have the lowest impact on health, residential neighborhoods, views, and property values. Construction along that route would have significantly less impact on residential areas and better access for construction.*
- *Our street, 122nd Avenue NE, is narrow, yet has some of the highest traffic levels and worst speeders in the neighborhood. We worked to get something done about it, but they wouldn't do anything like speed humps because they said it was a primary access route for emergency vehicles. Why would you use that street as a street for significant disruptive construction?*
- *I strongly oppose the route the BNSF rail route as my house is 25 from centerline of existing track. The rail right of way is very narrow in the Kennydale area and I own land that is 20' from centerline. That path is near the Kennydale Beach Park and would have environmental concerns due to the construction that close to the Shoreline.*

**Puget Sound Energy Response:**

Construction of the project is a few years out – anticipated to start in 2017, once we receive the necessary project permits. At this time we are working on selecting a route, so it is too early for us to know the exact construction schedule or potential impacts. As we know more about construction details, we will notify and keep affected businesses and property owners informed of the schedule and activities.

Construction activities typically include field surveys, working with property owners on pole locations, trimming and removing vegetation to ensure safe operation of the line, installing new transmission poles, stringing the transmission line wires, and cleaning up, restoring and re-planting vegetation. At every step along the way we will work to keep the community informed of the project's progress.

For any segment identified as part of the preferred route, we will deal with traffic during construction by working with the local jurisdiction to balance our construction needs with minimizing traffic impacts. For example, some options we've used in the past to minimize traffic impacts in urban areas include condensed work hours, night work (consistent with noise regulations), and using additional crews to expedite construction. We also use signs and flaggers to direct traffic during construction.

During the construction of any infrastructure project, PSE's principles are to:

- Work with the community to develop a constructible project design
- Follow strict safety and environmental procedures and guidelines
- Ensure design and construction work is conducted in accordance with all applicable federal, state and local codes and regulatory requirements, including construction noise and work windows
- Strive to limit the impact on landowners, the community and the environment during construction
- Notify and keep impacted businesses and property owners informed of specific construction activities and the schedule of work
- Aim to complete construction with as little disruption as possible by using best construction practices, as well as by designing the project in a manner that minimizes impacts while utilizing existing easements for construction access
- Keep the safety of the public and our employees as our top priority during the construction of our projects
- To the best extent practicable, restore property impacted by construction to its previous state. When restoration is not possible, PSE will offer in-kind mitigation

### **Project need**

Questions about how growth was predicted were posed, as well as requests to document the need.

#### ***Excerpts:***

- *Who exactly will benefit from the increase in capacity? Those customers or PSE (who will receive payment from those customers) should have to shoulder the additional cost to underground the transmission lines.*
- *We would like to see the demographics of demand including corporate/industrial demand.*
- *I would like to see the data on which the growth model was constructed.*

#### ***Puget Sound Energy Response:***

Much has changed on the Eastside in the last 20 years. Not only have communities grown and prospered, but the way we use electricity has changed—we plug in more devices and build bigger homes. Demand for electricity has grown dramatically, and it's time for our infrastructure to catch up.

Economic development, job growth and associated population growth on the Eastside depend on a robust electrical transmission system. The Bellevue-Redmond area has become a major regional economic and employment center with 140,000 jobs and 143 corporate headquarters, for which many people have moved to the surrounding area. Eastside population has grown by seven times since 1960, and recent growth trends are expected to continue – in fact, the Puget Sound Regional Council recently

predicted that population will grow by more than a third between 2012 and 2040, with population in the Bellevue central business district growing by more than 275 percent by 2040<sup>1</sup>.

At the same time, this economic rejuvenation is straining our region's existing electric system. Growth studies project that demand for reliable power will exceed capacity as early as 2017. We have essentially outgrown the electric system that serves our communities. Without substantial electric infrastructure upgrades, tens of thousands of residents and businesses will be at risk of more frequent and longer outages.

Additional information is available on the [Eastside Need](#) page of our project website.

## Noise

Concerns have been expressed about noise generated from power lines, particularly in damp conditions.

### Excerpts:

- *I lived close to the power lines in Seattle's Beacon Hill neighborhood and I remember the noise the lines made during the rain. Since my property is now much closer, I would like to know the impact to me with this new project.*
- *Route M is an existing corridor that preceded all current homes and customers. Since their lines won't go away, a reconfiguration that provides single poles, quieter lines and EMF mitigation represents an upgrade without impacting a new group of customers.*
- *What is being done to contain the noise impact due to the corona discharge? Due to our weather with frequent low clouds and fog, the noise impact from these proposed lines could be substantial for residents in the impacted areas.*
- *How does PSE intend to mitigate noise from the higher-voltage lines if they are installed above ground?*

### Puget Sound Energy Response:

In general, 230 kV transmission lines do not produce noise like that of other voltages. This is because over the years, transmission line design improvements have contributed to minimizing audible noise levels. At voltages of 230 kV and below, the 'corona effect'<sup>2</sup> – and any resulting noise – should be negligible. Generally, these impacts only occur at voltages higher than 230 kV (typically 345 kV and above). In the rare instance where noise can be heard from a 230 kV line, a simple adjustment to a piece of equipment on the line can usually solve the problem. An evaluation of audible noise will be conducted as a part of the overall design of the transmission line.

## Geology/soils/steep slopes

Questions regarding geology and groundwater effects/conditions have been presented.

### Excerpts:

- *If PSE even did a rudimentary study of the hydrology of the 2-mile stretch of Lake Wash Blvd north of Coulon Park up to the end of Ripley Lane, all the underground water would make this*

---

<sup>1</sup> In April 2014, the Puget Sound Regional Council updated their growth forecasts to 280 percent by 2040, but at the time these responses were given, PSE provided the figures noted.

<sup>2</sup> The Corona effect is the breakdown of air surrounding an energized conductor which sometimes causes popping sounds.

*area a poor choice. Homes along the shore have trouble with shifting foundations due to the water in the ground, so why wouldn't that affect a power line too?*

- *Finally, we also have concerns about the stability of the soil and geological footprint of this route during a major earthquake. We would expect and hope that you would address this with a formal study on this risk prior to making your choice on the route.*

***Puget Sound Energy Response:***

Each segment option will undergo detailed siting of structures to avoid or minimize impacts 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.

The project will undergo environmental review as part of the State Environmental Policy Act (SEPA) no matter what route is selected. Additionally, because we are still working on identifying the route, we have not made application for construction permits.