

Energize Eastside

North Sub-Area Committee Meeting

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energize**EASTSIDE**

May 7, 2014

Agenda

- Project overview
- Key questions and PSE responses
- Clarifying questions
- Review workshop #1 and #2
- Committee discussion
- Next steps

Energize Eastside overview

- Growth is straining our region's existing transmission system
- Conservation alone is not enough
- We need to act now
- We are working with the community to identify solutions

Energize Eastside will build new electric transmission infrastructure to ensure dependable power

Sub-area workshop overview

North Workshop #1 - March 19, 2014

- 44 attendees
- 42 issues checklist worksheets received
- 10 comment cards and feedback forms received

North Workshop #2 - April 16, 2014

- 42 attendees
- 33 individual scoring sheets received
- 6 group scoring sheets received
- 4 comment cards and feedback forms received

Key questions and responses

- Alternatives analysis/route selection process
- Undergrounding
- Seattle City Light corridor
- Olympic Pipeline
- Property values
- Electromagnetic fields (EMF)

Solution selection process

1

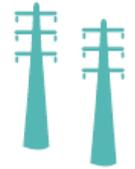
What are the potential approaches to meet the Eastside's electricity needs?



conservation



local generation



infrastructure

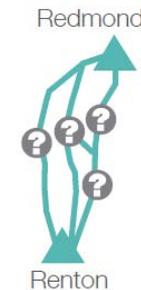
2

What approaches provide enough electricity to meet the Eastside's needs?



3

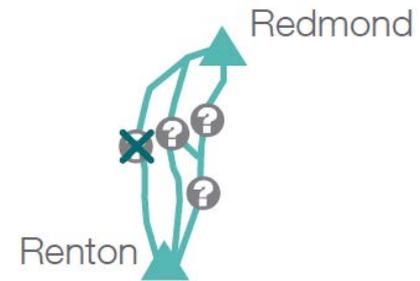
What solutions best deliver electricity to the Eastside?



Solution selection process

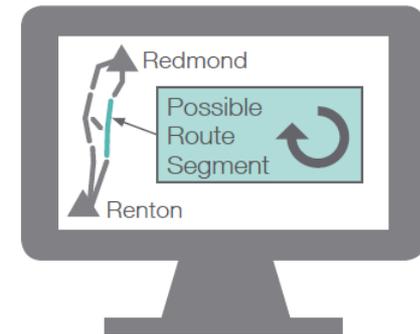
4

What solutions can PSE move forward with?



5

Where could PSE build a solution?



6

What does the public recommend?



What about undergrounding?

- PSE is proposing an overhead transmission line project
- The reasons:
 - **No. 1: Cost**

Underground	Overhead
\$20-28 million per mile <i>estimated labor, material and equipment costs</i>	\$3-4 million per mile <i>estimated labor, material and equipment costs</i>

Who pays to underground?

Requesting group pays the difference between undergrounding and overhead

- Requesting group needs to initiate and identify the specific members of the group
- Money paid up front for both engineering and construction



Underground distribution lines

- Distribution lines serve individual neighborhoods, while transmission lines bring power to large areas
- Opportunities allow for new distribution lines to be underground
 - During the construction of new housing developments (developer pays)
 - In concurrence with large public improvement projects (PSE/jurisdiction cost share)
- About 50 percent of PSE's distribution system is underground, while PSE has no underground 230 kV transmission lines

Seattle City Light corridor

- PSE has reached out to Seattle City Light (SCL)
- SCL uses their 230 kV transmission lines to meet current and future operating needs

Olympic Pipeline

Demonstrated success with power lines and pipelines

- Replaced 300 poles in the existing corridor
- Snohomish County – installed 8.5 miles of 230 kV transmission line along Olympic Pipeline
- In Skagit County, Sedro-Woolley to Horse Ranch project crossed Northwest Pipeline



230 kV transmission line in Everett, WA

Property values

- Property values are comprised of many factors, including economic outlook and location, as well as proximity to jobs, schools, transportation, parks and other amenities.
- 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. Again, due to the unique qualities of each property, there's no one size fits all formula.
- We will not use property values to site infrastructure because it is inequitable.

Electromagnetic fields (EMF)

- 45 years of research on EMF
- \$500 million spent on research in the United States alone
- About 2,900 studies conducted to date related to cancer
 - Very large amount of scientific knowledge
- World Health Organization in 2012 concluded that:
 - “The current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields”
- The international public exposure limits:
 - 2,000 mG - International Commission on Non-Ionizing Radiation Protection
 - 9,040 mG - Institute of Electrical and Electronic Engineers

<http://www.who.int/peh-emf/about/WhatisEMF/en/index.html>

Clarifying questions

Do you have any clarifying questions about the information presented?

Workshop #1 results

- PSE listened to community knowledge of segments and the area
- Attendees:
 - Identified key issues and considerations for segments in the sub-area
 - Brainstormed community values
 - Requested data that would be helpful to compare segments

Key issues results

For the potential route segments in the north sub-area, what key issues should the Sub-Area Committee consider?

Issue	Survey total	Workshop total	Cumulative total
Electromagnetic Fields (EMF)	10	39	49
Property values	7	33	40
Residential impacts	11	25	36
Aesthetics	4	28	32
Number of properties impacted	5	24	29
Visual impacts	3	25	28

Key themes and evaluation factors

What we heard	Evaluation factors
<i>Number of schools nearby</i>	Least proximity to sensitive community land uses
<i>Where does the alignment pass areas that are wild and natural?</i>	Least proximity to sensitive environmental areas
<i>Impact as few homes as possible</i>	Least proximity to residential areas
<i>Number of trees affected</i>	Least impact to mature vegetation
<i>Use existing utility corridors</i>	Maximizes opportunity areas
<i>EMF, human health and safety</i>	Most protective of health and safety
<i>Number of properties along a segment with view impacts</i>	Least effect on aesthetics

Workshop #2 results

- PSE presented data requested in workshop #1 and also shared visualizations
- Attendees:
 - Used data to score all the route segments individually and as a group
 - As a group, wrote a key message to the Sub-Area Committee

Segment scoring

North Sub-Area Workshop #2 Segment Scoring Sheet

4/16/14

Evaluation factors	Segment A	Segment B	Segment C	Segment D
Least proximity to sensitive community land uses (parks and other recreational areas, registered historic sites, schools, churches, etc.)				
Least proximity to sensitive environmental areas (wetlands, wildlife habitat, fault lines, etc.)				
Least proximity to residential areas (number of residences, population density, noise, etc.)				
Least proximity to mature vegetation (number of trees impacted)				
Maximizes opportunity areas (runs along existing utility corridors, public right-of-way vs. private right-of-way etc.)				
Most protective of health and safety (EMF, Olympic Pipeline, etc.)				
Least effect on aesthetics (pole design; see graphic representations)				

Individual segment scoring averages

Evaluation factor	Segment	Segment	Segment	Segment
	A	B	C	D
1. Least proximity to sensitive community land uses	4.57	2.33	3.03	2.83
2. Least proximity to sensitive environmental areas	3.18	2.13	3.02	3.22
3. Least proximity to residential areas	4.05	2.17	2.70	3.42
4. Least proximity to mature vegetation	4.36	2.20	2.67	3.42
5. Maximizes opportunity areas	4.43	2.67	3.73	2.54
6. Most protective of health and safety	3.91	3.32	2.48	3.26
7. Least effect on aesthetics	4.16	2.25	3.07	3.14

Table group segment scoring averages

Evaluation factor	Segment	Segment	Segment	Segment
	A	B	C	D
1. Least proximity to sensitive community land uses	4.80	1.97	2.83	2.57
2. Least proximity to sensitive environmental areas	3.00	1.50	3.00	3.53
3. Least proximity to residential areas	4.20	2.17	2.67	3.93
4. Least proximity to mature vegetation	4.37	1.73	3.00	3.47
5. Maximizes opportunity areas	4.53	2.60	3.50	2.47
6. Most protective of health and safety	3.50	3.27	2.50	3.43
7. Least effect on aesthetics	4.48	2.03	3.17	3.37

Individual compared to group

Individual averages

Segment A	Segment B	Segment C	Segment D
4.57	2.33	3.03	2.83
3.18	2.13	3.02	3.22
4.05	2.17	2.70	3.42
4.36	2.20	2.67	3.42
4.43	2.67	3.73	2.54
3.91	3.32	2.48	3.26
4.16	2.25	3.07	3.14

Group averages

Segment A	Segment B	Segment C	Segment D
4.80	1.97	2.83	2.57
3.00	1.50	3.00	3.53
4.20	2.17	2.67	3.93
4.37	1.73	3.00	3.47
4.53	2.60	3.50	2.47
3.50	3.27	2.50	3.43
4.48	2.03	3.17	3.37

Segment A – detailed individual scores

Evaluation factor	Number of responses by score					Average
	1	2	3	4	5	
1. Least proximity to sensitive community land uses	1	0	2	2	18	105/23 = 4.57
2. Least proximity to sensitive environmental areas	3	5	4	5	5	70/22 = 3.18
3. Least proximity to residential areas	1	2	2	7	10	89/22 = 4.05
4. Least proximity to mature vegetation	1	0	2	6	13	96/22 = 4.36
5. Maximizes opportunity areas	1	1	0	6	15	102/23 = 4.43
6. Most protective of health and safety	1	2	5	4	10	86/22 = 3.91
7. Least effect on aesthetics	1	0	4	4	10	79/19 = 4.16

Key themes from worksheet comments

- Preference for taller, fewer poles
- Preference for using existing corridors
- Concern that the data does not accurately capture the number of residential units adjacent and near proposed routes (e.g. does not factor in condominiums and apartments)
- Concerns about EMF, noise pollution, and property values
- Consider undergrounding
- Consider cost to taxpayers

Key messages to the Committee

Group 1

- *Minimize proximity to schools big priority*
- *Prefer taller poles with greater spans*
- *Open to neighborhood preference if different along route*
- *Utilize existing lines/corridors (including City Light line)*

Group 2

- *Data is not a true representation of the make-up of the community*
- *Residential units are most important data*
- *Consider number of residential units near and adjacent to each segment*
- *Prefer shorter poles*

Group 3

- *Focus on existing lines/corridors*
- *Prefer taller poles/fewer poles*

Key messages to the Committee

Group 4

- *Use existing lines wherever possible, with minimal impact*

Group 5

- *Concern about interaction of transmission line on pipeline*
- *Continued concerns about health*
- *Continued concerns about aesthetics and property values*

Group 6

- *Preference: tall poles/long spans*
- *Please consider cost to tax-payers, proximity to schools, and common sense*
- *Build where there are existing poles/easements for the least cost/impact*

Committee discussion

Upcoming meetings

- **Community Advisory Group Meeting #3**
June 4 from 5:30 to 8:30 p.m. at the Old Redmond Schoolhouse

Thank you!