

# MEETING NOTES

Meeting No. 1 – August 2, 2017

## Bavarian (Leavenworth) Substation & Transmission Stakeholder Meeting

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### 1. Meeting Summary:

- Shaun Seaman opened the meeting at 6:30pm. Introductions of PUD staff and stakeholders.
- 37 property owners and residents in the Fox Road and North Road areas interested in the transmission line routing discussion attended. Approximately 6 of those were more interested in the substation design discussion.
- Reviewed the need for a new substation to serve the Upper Valley. The last substation was built in 1986 and the existing substation is nearing 90% capacity. Growth and development are on the rise in the Upper Valley.
- Community engagement process began in December 2015. Community focus group and PUD staff evaluated sixteen potential areas using Site Selection Criteria. Through the process, the list was narrowed to the Top 3. Shortly after, the Chumstick site property became available. PUD's consultant then performed analysis on three sites; MEND (14), City (8a), and Chumstick. The community focus group endorsed the Chumstick site as the preferred alternative. The analysis showed the Chumstick site to be the lowest cost and looked to meet the PUD's system requirements. In July 2017, PUD Commissioners agreed the Chumstick site was the preferred alternative and directed PUD staff to move forward with design.
- **\*Transmission lines feed into a substation**, the substation steps down the voltage, then **distribution lines run out of a substation** to serve homes and businesses. Transmission lines are 115kV voltage, built overhead, and can generally utilize a single wood or steel pole, approximately 50-70 feet tall in urban areas. Distribution lines are 12.47kV, can be built overhead or underground, and utilize wood poles that are approximately 40-45 feet tall.
- Transmission is needed to serve the new substation and has been a part of the community conversation from the beginning of the engagement process. Transmission lines currently exist in the Fox Road and North Road areas. It was discussed that no matter where the new substation was located, the new transmission line feed would have come off the existing transmission lines located near the Fox Road location.
- Gary Rice showed a map of the Chumstick site with proposed distribution and transmission line routes. Transmission line 2 – Alternative 1 (Alt.1) had been used on maps during public meetings. This map demonstrates how a transmission loop (two transmission sources serving the substation) would create redundancy and increased reliability for the community. Because of their similar locations, the same transmission route options exist regardless of which of the three substation sites was chosen as the preferred alternative.
- Two other transmission line route alternatives were presented; Alt.2 and Alt.3. The information brought forward at the meeting was very high level as the PUD does not currently have any real analysis on any of the three routes. The PUD's consultant will perform a feasibility study on the alternatives. It is important to evaluate multiple options. All three routes would accomplish a transmission loop. Factors that will be analyzed in the feasibility study include: aesthetic and neighborhood impacts, easements, permitting, and cost. A high-level design of the line corridor, pole locations and renderings will be included in the feasibility study.
- High-level description of each alternative (not listed in a particular order):
  - Alt. 1: Follows an existing distribution corridor. The transmission line would be different because taller poles and larger wire (aluminum) would be needed. There is a possibility the existing distribution line could be placed underground, essentially replacing the distribution line with a transmission line. If undergrounding isn't feasible in this area, taller transmission poles would be installed and the additional transmission wire would be placed above the distribution wire on the same poles ("transmission w/ distribution underbuild).
  - Alt. 2: Extends the double circuit corridor already existing northeast of Fox Road (high line) to the west, then turns 90 degrees south and travels toward the substation through along Cemetery Road. This is the longest of the three routes. This route impacts views of the property/residences higher on the hill.
  - Alt. 3: Close to an existing transmission line which adds risk because there is minimal separation between the two lines. The close proximity to the existing line could lessen visual impacts because poles could be placed in the same sight line as the existing structures. This route would remain mostly on PUD and Chelan County property, lessening the need for private property easements. This is the shortest of the three routes. At initial glance, it seems to have the least visual impact of the three routes.
- It was noted that with Alt 1 and 2, it might be possible to remove a portion of the existing transmission line serving the Leavenworth substation. Under Alt.3, this same section of transmission line would likely be rebuilt.
- A transmission line will also be installed between the existing substation behind the fire hall and the new substation located on the Chumstick site for reliability purposes. The most logical route from a system standpoint is along the west side of the Chumstick Highway, following the existing distribution corridor. There is some

flexibility to utilize County Shop Road, however, that route is not straight, adding difficulty to constructability and the area is already very congested with utility infrastructure.

## **2. Stakeholder Input and General Issues:**

- The PUD is seeking input and feedback on the transmission line routes from property owners and residents in the area. PUD staff will incorporate input into the consultant's feasibility study. Input will also be shared with PUD Commissioners and senior management.
- The majority of stakeholders felt that Alt.1 would have the highest visual impact to the most property owners in the area.
- People felt even if the distribution along Alt.1 was undergrounded, there would still be impacts to the view due to taller poles and larger wire as well as health concerns stemming from the higher voltage of transmission.
- Others had concerns about view and health impacts of Alt. 2. They also felt this route didn't make sense because it was the longest and probably most expensive to construct.
- Some felt that Alt.2 was the most impactful, more so than Alt.1. They pointed to property with development potential in which views would be negatively impacted.
- The majority of stakeholders felt that Alt.3 made the most sense because it looks to impact the least amount of homes, is the shortest route, and most of it would be built in close proximity to an existing transmission line.
- One commenter said that Alt.3 impacts the McDevitt orchard, which has the potential to be used as development property in the future. There is much more flat land there compared to the development property higher on the hill.
- View impacts is the most prominent issue raised by the stakeholders.
  - One commenter asked if the PUD will account for payments to property owners for impacts to their view when analyzing the three route options.
- One commenter said that cost is not what's important in this project, it is the impact to the neighborhood that matters.
- Some stakeholders voiced a high level of concern about health impacts; Electromagnetic fields (EMF).
- One commenter mentioned that he lives close a transmission pole and line and didn't notice after it had been in place after a couple of months.
- Others mentioned that the existing tap goes through their orchard, which could also be used as development property in the future and could benefit from all or part of that tap being removed.
- One stakeholder commented about the PUD following through after meetings like this, eluding to a perception that the PUD listens, but does not act on the input.
- Some stakeholders brought forward concerns related to issues not related specifically to the substation and/or transmission line routing. PUD staff will follow up with those stakeholders separately.
- One attendee noted that the PUD will save money by choosing the Chumstick site and that money could be used to limit the impacts of the transmission line.

## **3. Next Steps & Timeline:**

- Aug. 2-Aug. 31 - Gather input/feedback over the next three to four weeks
- Aug. 2-Sept. 8 - PUD consultant performing feasibility study on three transmission route alternatives
- Before Aug. 31 - Meet with a smaller group of substation design stakeholders
- Sept. - Hold a second stakeholder meeting
- Aug.-Sept. - PUD staff initiating permit-level design and Conditional Use Permitting process
- 2018 - Substation and transmission line route design
- Q3-Q4 2018 – Procure equipment
- 2019-2020 – Substation and transmission line construction
- The current substation is running at 90% capacity. There is an urgency to construct the new substation and related transmission in a timely manner, but the PUD will continue to engage the stakeholders.

## **4. Substation Design:**

- A smaller group of stakeholders interested in substation design will meet separately before the end of August.
- The PUD has options around substation design variables such as landscaping, fencing, walls, lighting, noise, etc.

## **5. Q&A:**

**Q:** Is it true the PUD chose a site on the east end of town because of growth and demand up the Chumstick and Eagle Creek?

**A:** No. It would actually have been advantageous from a system standpoint to build a substation on the west end of town. Area 3, shown on the map of the original sixteen areas, was considered in the Top 3 through the site evaluation process. There was a property owner that was interested in participating in the process early on, but later chose to

remove their property from the list of considerations. The PUD then focused back onto available property on the east end of town.

**Q:** Will the new transmission lines have the same conductor (wire) size? And how visible will they be – I can't see the copper wires, but I can see the aluminum wires.

**A:** The new wire will be aluminum. The copper wire was installed in the 1930's.

**Q:** What type of disruption/destruction goes on when you install a transmission pole? How does it impact the trees in an orchard, is it going to kill trees?

**A:** An excavator digs a hole approximately 10 feet deep, 4 feet in diameter. If it's dug in good soil, the hole can be drilled. If it's in rocky soil, the hole may need to be bigger.

**Q:** What does the PUD need to do to access the transmission poles/lines?

**A:** It depends on where the poles are located. The PUD can design around existing accessibility. The route would need to be identified first, then we will work with immediate stakeholders to work on specific design, including access.

**Q:** How does the PUD place poles/lines on an easement? Is the property owner compensated for the loss of orchard trees?

**A:** The PUD works with the landowners to minimize the impact of the infrastructure.

**Q:** All three routes show them tapping off a different spot in the existing transmission line. Will the new line(s) require construction to start from that point?

**A:** No. For this stage in the process, PUD staff simply chose the most logical spot. The PUD is reaching out to stakeholders to help determine if anyone has other ideas or if other options are available.

**Q:** For the portion of the existing tap that needs to be reconstructed, would it be replaced as is?

**A:** That is yet to be determined. The diameter and height of the pole is not relevant to the material that is used. There is more flexibility when steel poles are used, however wood and steel are very similar. The existing line was built with a 1970's/80's design. The new poles will likely be approximately 5-10 feet higher. The PUD is open to work with stakeholders to determine if the route or span length can be changed. The longer the span, the larger and taller the pole.

**Q:** If transmission was built along North Road, would it be transmission w/ distribution underbuild?

**A:** The PUD has some options. The transmission would be built on the same side of the road as existing distribution.

**Q:** Is it possible to put distribution lines underground?

**A:** Yes, it is a tool that is available. However, there are some constraints. Undergrounding distribution adds significant cost and often additional real estate is needed.

**Q:** Were any other route options looked at?

**A:** Not yet. If stakeholders have any ideas, they are encouraged to bring them forward to PUD staff.

**Q:** How is the decision ultimately made?

**A:** The PUD Board of Commissioners will make the final decision based on a recommendation from PUD staff that includes the feasibility study results and stakeholder input.

**Q:** Is there a date by which the PUD must make a decision?

**A:** In order to keep the process moving forward, PUD staff would hope a decision would be made before the end of 2017.

**Q:** What will happen to the existing house on the Chumstick site?

**A:** The PUD hopes to keep the house, however a decision cannot be made until further in the design process.