FREQUENTLY ASKED QUESTIONS

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Puget Sound Energy electric reliability project – Whidbey Island

January 2010

Q: What is the scope and purpose of the project?
A: Historically, fallen trees and tree limbs are the most frequent cause of power outages on Whidbey Island. During the severe winter of 2006-2007, residents and PSE dealt with outages that were more frequent and longer than normal. In response to community feedback, as well as recommendations from an independent consultant hired to evaluate our storm response, PSE initiated a reliability project over several years to manage vegetation surrounding power lines, including the removal and clearing of trees that threaten the electrical system.

Specifically, we're identifying, evaluating and potentially removing trees with a mature height of more than 25 feet and trees that are in danger of falling or dropping limbs onto PSE's power lines.

Q: Where are you removing the trees?
A: Based on historical transmission line data, PSE has given priority to line segments on Whidbey Island that are most vulnerable to tree-caused power outages. Clearing for 2010 includes the area along the south side of Northwest Crosby Avenue in Oak Harbor. In 1989, PSE acquired a 25-foot easement from the edge of the street right of way, which extends over private property. Because many properties are fenced, the PSE easement is inside some fenced areas.

PSE has also identified some dangerous trees on the city of Oak Harbor right of way, which will be removed under a right of way use permit.

Q: How will I know where PSE intends to remove trees?
A: PSE will survey our easements along the transmission line route starting in late January 2010. Survey stakes will mark the outside boundary of PSE's easement. In February and March 2010 PSE's contractor, Asplundh Tree Experts, will provide notification in person (door-to-door contact) or leave notices on doors with information about which trees will be removed and the anticipated work schedule.

We anticipate that the actual clearing work will start by March 2010 and will continue through April. Residents can expect to see Asplundh performing work Mondays through Fridays, between the hours of 7 a.m. to 5:30 p.m. When needed, crews will use traffic signs and flaggers to help direct traffic.

Q: Should I expect interruptions to my electric service during the tree-removal work?

A: No. The project should not impact electric service.

Q: Some residents would say that power outages are just a part of life on Whidbey Island and should be expected. So why remove trees?
A: Being good stewards and protecting the many natural qualities of the Pacific Northwest, including our trees, is important to PSE. However, we are charged with providing a high-level of service,

including reliability, to our customers. While we make every effort to save our trees, we must balance this with our commitment to keep the power on. This is one of the reasons why, for more than 50 years, we have maintained easements on the island enabling us to clear our power line corridors should the need arise.

Q: Why is PSE cutting trees down instead of trimming back the branches?
A: PSE's $14 million year-round, vegetation management program includes a combination of cutting and trimming trees. However, on Whidbey Island, we've identified the need to go beyond our routine practices on the transmission line corridor. In addition to pruning, we'll be removing trees from the transmission line corridor that have a mature height of 25 feet or more, as well as trees that are in danger of falling or dropping limbs onto PSE's power lines. This selective tree removal will create a more effective buffer zone between trees and the transmission lines, resulting in fewer outages.

Q: Why is PSE removing trees in areas that have not recently experienced power outages, such as Northwest Crosby Road?
A: The electric transmission and distribution system is complicated, and what might appear to be isolated, minor damage can often have a major impact on a much larger area than might be expected. For example, a fallen tree or branch may not cut power to an adjacent home or neighborhood if that area is served off an unaffected substation and distribution line. Yet, that same tree may be responsible for a significant outage to a more distant neighborhood or community to which power cannot be re-routed.

Q: Why are you cutting our trees when we didn't see any trees on our road fall down last winter?
A: Transmission outages are caused by trees in many ways, not just by falling down. The most common type of "fault" on our Whidbey Island transmission system is caused by tree limbs breaking off trees that tower above the transmission lines and then falling across the wires. In addition, branches that are within close proximity often "brush" the power lines in high winds or heavy snows tripping the breakers and causing an outage.

Relays at our switching stations record these faults and provide an approximate location. Even if no one can find the exact tree or limb that caused an outage, we have a good record of where faults are occurring on the Whidbey Island transmission system. We have used this data to assist in our prioritization for tree removal.

Q: Will PSE compensate landowners for removing trees from personal property?
A: PSE compensated landowners for their trees at the time we acquired property rights. However, the company will give all impacted Whidbey landowners the option to keep merchantable timber and sell it to third-party vendors.

PSE also routinely works with individual property owners to recommend tree species that can be planted near power lines. Our *Energy Landscaping* brochure lists a number of different tree species that mature at a height of less than 25 feet.

Q: Will the current tree work expose weaker trees?
A: Removing trees within an established corridor can expose weaker trees. These trees typically are at the greatest risk of failure for the first few years after exposure. PSE attempts to identify these trees at the time of the initial tree removal, and works with property owners to mitigate any threat that the trees may pose to the electrical system. Within a few years, newly exposed trees will adjust and thrive in their new conditions, resulting in long-term improvements in electrical reliability.

Q: Why can't PSE place the transmission lines underground?

A: Approximately 50 percent of PSE's distribution power lines, which serve neighborhoods, are buried underground. Due to the long-distance reach of transmission lines, which bring power supplies from generating sources to our region, the majority of PSE's transmission lines are overhead.

PSE does have many underground distribution lines on Whidbey Island (as opposed to higher voltage transmission lines), and has converted distribution lines to underground in areas where vegetation management programs were not adequately improving system reliability.

While PSE can put transmission lines underground, there are significant challenges associated with undergrounding high-voltage lines. For example, all trees and vegetation must be removed in order to bury the underground cable; outage durations can dramatically increase because it can take much longer (days and weeks versus hours and days) to locate an outage and complete repairs; and underground transmission cables cost significantly more than overhead lines. The cost differential between overhead and underground would be borne by the local jurisdiction.

In the case of Whidbey Island's reliability concerns, constructing underground transmission lines would require a complete excavation – removal of all vegetation and disturbance of native soils -- while the current Whidbey Island reliability project only removes trees with a mature height of more than 25 feet.

Q: Why can't PSE top the trees?
A: As a general rule, PSE does not top trees within the easement area. Topped trees will usually re-sprout, and the new sprouts have weak attachments to the main stem. Over time, the new sprouts will become a greater hazard than the original tree. Additionally, if a tree is severely topped it will die.

Q: Can PSE use tree wire to avoid removing trees?
A: PSE uses "tree wire" throughout much of our system to reduce power outages along lower voltage distribution lines, but this technique for improving reliability is not an option for transmission lines.

"Tree wire" is a conductor with an insulated coating to protect the line from phase-to-phase, or phase-to-ground faults (such as a branch hitting the wire and creating a fault). Tree wire is not rated for the higher voltage lines. It is rated for 12.5 kilovolts (kV), while the transmission lines on Whidbey Island operate at 115 kV.

While we cannot use tree wire on the transmission lines in question, PSE's overall reliability plan for Whidbey Island does include increasing the use of tree wire along certain distribution lines in the future. PSE has installed tree wire in many locations on Whidbey Island in order to reduce limb-related outages, including the following areas: Wahl Road, East Harbor Road, Amble Road, Cultus Bay Road, Glendale Road, French Road, Deer Lake Road, Resort Road (cross country area off of road), Honeymoon Bay Road, Henni Road, Parker Road, Harrington Lagoon Road, Silver Lake Road, Miller Road, Scenic Heights Road. Additional projects are also planned for the future.

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