

Snohomish County PUD

Hat Island Submarine Cable Replacement

Overview:

In 1974, 3.07 miles of submarine cable was installed from Mission Beach to Hat Island to serve electrical power to the community of Hat Island. It currently serves approximately 280 homes/cabins with an average load of 150 – 250 kW and a winter peak load of 600 – 700 kW. The existing cable can accommodate the potential 1,500 kW peak load of the island, at full buildout.

On October 19, 2018 one phase (B-Phase) of the three phase cable failed. Throughout the next several weeks District Crews and a Fault-Locating Contractor made attempts to pinpoint the exact location of the fault which was determined to be near the low-tide area on the Hat Island Beach. After inconclusively determining the exact location of the fault, District engineers abandoned the search considering the potential risk of damaging the other two phases. It was determined the best course of action given the age of the cable was a complete cable replacement.

PUD is currently developing plans, specifications, refining estimates and working to secure all legal rights and environmental permitting for the installation of a new, replacement cable. The estimated date for cable installation is dependent upon easement acquisitions, permitting timelines controlled in large part by State and Federal permitting agencies and any permit conditions they place upon the project. Permit conditions may include specific timeframes during which construction is prohibited due to environmental concerns. The District project staff is still working toward a Fall/Winter 2020 installation for the cable however will provide Hat Island customers with a more accurate schedule once all permit applications have been submitted and permitting agencies have had an opportunity to provide comment.

In the short term, upon reaching an agreement for easement acquisition with the Tulalip Tribes, PUD will be installing step down transformers, protection devices and reducing the line voltage to reduce stress on the existing cable. The island can run on two phase power with back-up generation for the desalination (RO) plant.

Frequently Asked Questions:

How does the failed cable impact the power supply to my home and water supply?

There is currently no issue with serving the homes of Hat Island with the remaining two phases, and they could be served by a single phase. PUD has provided a generator to run the desalination (RO) plant until the new cable is installed.

What happens if the other two phases fail?

In the event the other two cables fail, and we are unable to make necessary repairs, PUD is prepared to provide diesel generators to power the island until power can be restored through PUD service. PUD would declare an emergency to help in expediting the permitting and construction process.

In previous discussions with the PUD, injecting the cable to potentially increase the life was discussed. That did not happen. Why?

The cable is very long and the conductors are small. There is a good chance the injection fluid may not have been able to flow through the entire length effectively. The District did put together a contract and went out to bid in 2014. During the bid process the two injection contractors merged and they did not bid the contract due to potential risk of having a refund for the cable.

The District reevaluated options and decided that Voltage Reduction could extend the life of the cable for lower cost and less risk.

How much does the construction and installation of a new cable cost?

PUD is estimating a total cost ranging from \$2.5 million to \$4.5 million. The District is contracting with a consulting firm that has local expertise in submarine cable replacement. The District will work with this design firm to refine the construction cost estimate during Q1/Q2 2020.

How will this project be financed?

PUD will provide 50-year financing that is repaid by the Monthly Hat Island Submarine Cable Surcharge.

How will the cable replacement impact our daily surcharge fee?

The current surcharge was calculated in 2012 using estimated cable replacement costs. Once actual replacement costs are known, the surcharge will be recalculated accordingly. Based on estimated costs of \$2.5 - \$4.5 million, the revised surcharge would range from \$.28 to \$.80 per day compared to today's rate of \$.71/day.

Should I expect to be without power any time between now and when the new cable is installed?

PUD does not expect there to be any disruption in power due to the cable failure however there is always a chance of weather-related outages or other unforeseen issues. PUD will respond to any and all outages as quickly as possible.

Will I be without power when the cable is being installed?

There will be one or more short duration, scheduled outages during the cable installation to transfer electrical service to the new cable. The island residents will be notified in advance of any necessary scheduled outages.

What can I expect between now and the installation of the new cable?

As far as your power, PUD expects business as usual. PUD will work closely with the Hat Island Board to keep everyone informed of project status.

If I have additional questions, who should I talk to?

Please contact Shelley Pattison at Snohomish County PUD. Here is her contact info:

425-783-8115, slpattison@snopud.com