

## Overview

The Juan de Fuca Cable is a proposed new 30 mile (50 km), 550 megawatt HVDC Light® undersea electric transmission line connecting Port Angeles, Washington, USA with Victoria, British Columbia, Canada. The Project also includes significant system upgrades on the Olympic Peninsula. HVDC Light® is state-of-the art, Smart Grid enabling, high voltage direct current (HVDC) transmission technology recognized internationally for its reliability, fast and accurate power control and low environmental impact. This Project is fully permitted in both the US and Canada and has been under development since 2003. It has received considerable customer interest. The Project offers a “shovel-ready” means of increasing the available transmission capacity on both sides of the border, improving transmission system reliability, embracing Smart Grid technology, integrating more power from renewable resources, and increasing international trade between Canada and the United States.

## Benefits

### Offers a High Value, Shovel-Ready Transmission Infrastructure Option

- HVDC Light® technology is a high value means of providing desired capacity, system reliability, and facilitating increased integration of renewables. When all construction and regulatory permitting costs are included, the aggregate cost of providing comparable benefits through the use of AC overhead lines and technology would be more than the projected cost of this Project.
- The Project can be constructed and in operation in approximately twenty four months after contracts and financing have been secured.

### Increases Available Generation, Enhances Grid Security and Improves Reliability

- Port Angeles and Victoria are each at the ends of radial transmission lines, which makes them more prone to electrical outages. By interconnecting the two systems and reinforcing the system on either end of the line, the JDF Cable will increase reliability throughout the Puget Sound and on Vancouver Island. The Project will also increase north/south capacity by 20-30% while adding to the available generation capacity in both electric systems by providing a “virtual generator” of 550 MW in both areas.
- Grid security is improved. System robustness against terrorist attack and natural disaster is enhanced by having a separate North-South corridor that is inconspicuous, seismically secure, and difficult to access because it is under ground and under water.

### Creates Domestic Jobs and Stimulates International Trade

- This new connection effectively creates a “network” in the place of the existing radial connections, reducing acknowledged congestion on the primary transmission pathway between the Pacific Northwest and British Columbia (the Blaine Intertie), allowing energy exchange in both directions and stimulating economic development on both sides of the border. The Idaho National Laboratory’s study for PNWER<sup>1</sup> in 2008 estimated the “most likely value for the life cycle of added activity from the transmission of electricity” for the Juan de Fuca project to be “\$134,880 billion,” and the “Estimated Regional Employment Increase” to be 177,000.

### Promotes Development and Integration of More Renewable Energy

- The energy output from many renewable energy resources, such as wind, tends to peak at different times in geographically distinct areas. By providing more, better and controllable interconnections between such areas, the U.S. and Canada can mutually reinforce each other’s energy security, allowing a higher penetration of renewable energy for both than either could achieve independently.

### Provides a Near-Term Solution to Regional Seasonal Wind Curtailment

- In June 2010, BPA experienced an oversupply of generation when a surging spring runoff on the Columbia River System, high electrical generation from the wind turbine fleet, and low demand for electrical power occurred simultaneously. This resulted in the spillage of some 745,000 megawatt-hours of electricity and significant negative pricing. This event occurred when there was only ~2300 MW of wind generation capacity on the system and during a low water year. Similar events are likely to occur in the future, given that wind generation in the BPA footprint is anticipated to increase by ~1000 MW/year through 2014. The Juan de Fuca Cable provides a partial long-term solution to this key challenge by allowing excess generation to be exported to the Canadian system for temporary balancing, and then reimported when conditions are more favorable, thus avoiding the necessity of curtailing readily available renewable energy generation.

### Protects the Environment and Wins Public Support

- The Project has undergone full environmental reviews in both the US and Canada and secured all permits with no major opposition. The combination of HVDC Light® technology and horizontal directional drilling for the cable landings provides an ecologically benign mechanism that is, proven to be socially acceptable for transmitting bulk electrical power. The cable emits no varying EMF or sound, and is out of sight - fully underground and underwater for its entire length.



**CONTACT INFO**

**Sea Breeze Pacific Juan de Fuca Cable, LP**  
 Suite 1400-333 Seymour Street  
 Vancouver, British Columbia  
 V6B 5A6 Canada

**Sara Van Mulligen, Project Coordinator**  
 Voice: 604-689-2991 Toll-free: 1-866-387-1240  
 Email: SaraVanMulligen@SeaBreezePower.com

[www.JDFCable.com](http://www.JDFCable.com)