

[Improving Power Reliability by Land and Sea](#)

By Paola Adler

The last leg of a power reliability project to strengthen an essential transmission line connecting the Pacific Northwest to Southern California has been completed. Spearheaded by LADWP's Power Transmission and Distribution Division's Overhead/Underground Transmission team, the Pacific Direct Current Intertie (PDCI) ground return system's ocean electrode was upgraded to improve power reliability and capacity for Los Angeles customers and other utilities that utilize the line.

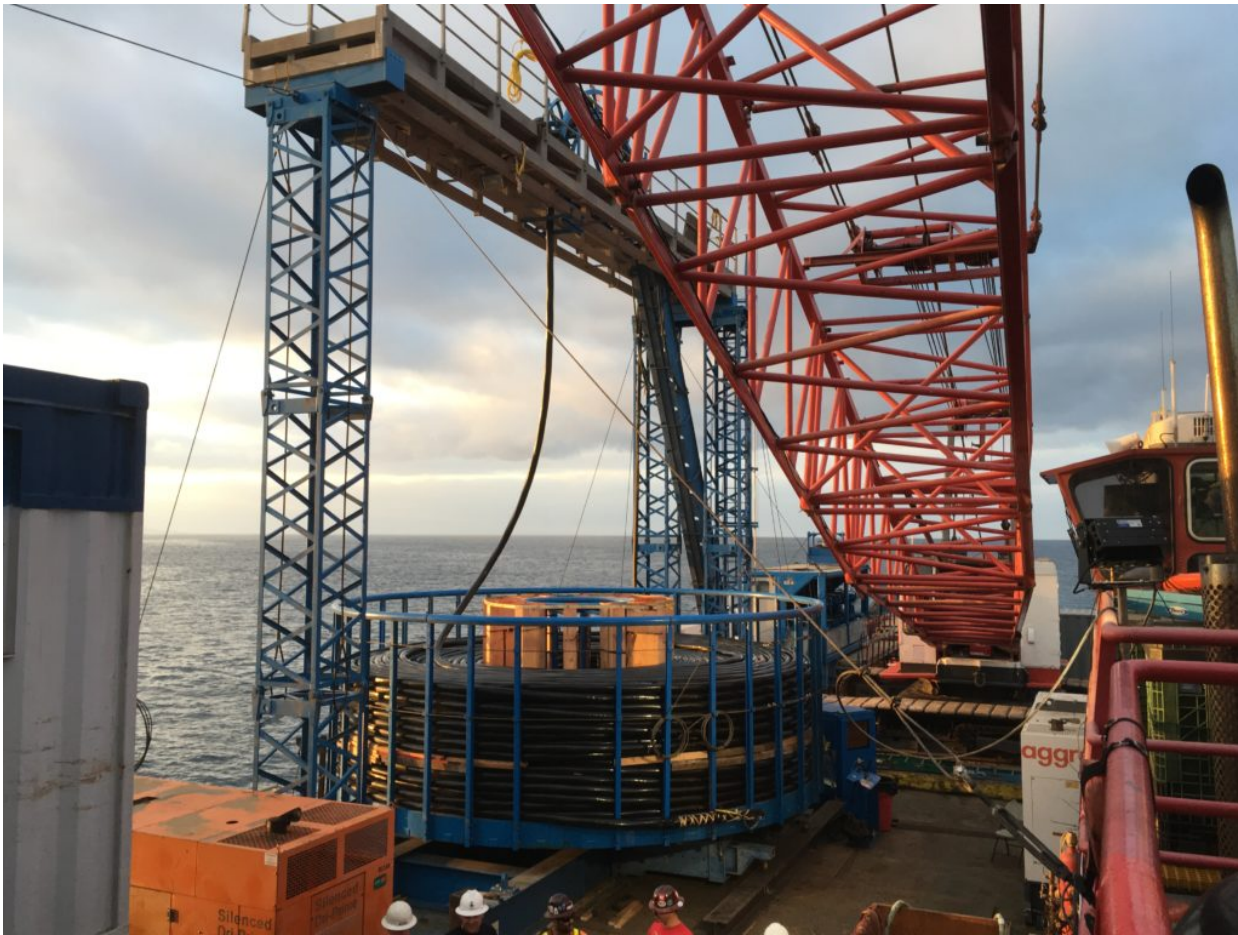
The PDCI is a DC transmission system that has a capacity of 3,220 MW, enough to power two million homes. The original system was put in service in 1970 and has been continually maintained and expanded, but the southern ground return connection had not been replaced since the PDCI was built.

Originating at Sylmar Converter Station and terminating in Santa Monica Bay, the ground return system is designed to carry current safely when the PDCI experiences an interruption and also ensures consistent flow of electricity. The ocean electrode component provides a "ground point" where electricity can travel through the earth. As the operating agent of the system's southern area, LADWP began a project to inspect and upgrade this portion of the line in 2014.

"This project was a unique challenge for LADWP because it included replacing both underground cable on land and submarine cable under 120 feet of water in the Pacific Ocean," said Mohammad Khajavi, Power System electrical engineer and the project's director. "There were a lot of technical challenges and moving parts we had to manage, but our biggest achievement is creating a team that worked well together to achieve a complete project at a cost lower than expected."

Because the cables stretch more than four miles offshore, a barge and tugboats were used to carry equipment and work crews, and ocean divers were used to help properly install components underwater. LADWP used DC cross-linked polyethylene insulated cable for the project and installed 36 offshore vaults, using a design that exceeds safety standards and protects marine life and customers onshore.

More than 50 LADWP employees worked on the project, which was commissioned in November 2018. Divisions beyond the Power System also contributed to the project's success through environmental monitoring and compliance, permitting and public outreach. The team's efforts will help support reliable power flow to Angelenos for decades to come.



The project included replacing both underground cable on land and submarine cable under 120 feet of water in the Pacific Ocean. (Photo by Jairo Guerrido)



Longest Power System Underground Transmission Line Completed

By Deborah Hong

LADWP has completed a major underground transmission project to improve power reliability for dense Westside communities.

Scattergood-Olympic Cable A Transmission Project, a critical piece of the Department's plan to replace aging power infrastructure, features the city's longest underground transmission cable at 11.4 miles. The cable is more than 6 inches in diameter and weighs 35 pounds per foot. The \$130 million transmission line begins in West Los Angeles and runs south to past Westchester, and serves communities along that corridor as well as those as far north as the Pacific Palisades. It also connects to the citywide high-voltage transmission grid, ensuring reliable electric service for millions of Angelenos.

"This project and other transmission line upgrades are critical parts of transforming L.A.'s power supply and rebuilding our aging power grid infrastructure so that we can effectively deliver increasing amounts of renewable power to our valued customers," said Reiko Kerr, Senior Assistant General Manager of Power System Engineering, Planning, and Technical Services.

The new transmission line is an addition to the original line which began commercial service in 1974 and had been experiencing reliability issues. The original line will be used a backup, should it be needed. With the completion of Scattergood-Olympic Cable A, power system reliability for western Los Angeles has been enhanced with improved system flexibility. It also allows for more efficient use of power generation resources, including LADWP's Scattergood Generation Station.

Stretching from Scattergood Generating Station near LAX to the Olympic Receiving Station in West LA, the Scattergood-Olympic Cable A line operates at 230 kilovolts (kV) and can transfer 656 megavolt amperes (MVA). The cable is connected through underground vaults that are located less than half a mile apart, which reduced the cost of installation and will improve reliability.



Employees celebrate completion of the Scattergood-Olympic line on September 26, 2018. (Photo by Chris Corsmeier)

The project began in 2008, and constructing the line was no small feat. Under the leadership of Kishan Kasondra, project manager in the Power System’s Major Projects and Project Management section, the project was a great example of excellent cooperation and communication. As the line runs along several busy corridors in western Los Angeles, completing the project required close coordination with multiple agencies, including Caltrans, the Federal Aviation Administration, Coastal Commission, Los Angeles Department of Transportation, Los Angeles Bureau of Engineering, Los Angeles Council District 11, five neighborhood councils and the City of Culver City.

One of the biggest tasks the project team faced was installing the cable across the Lincoln Bridge through Ballona Creek, which required the completion of a thorough two-year study for the permit to be approved. “The team worked hard and found solutions to some interesting challenges,” said Kasondra.

(Top photo by Art Mochizuki)



Benedict Canyon Water Pipe Replaced Ahead of Schedule

By Michael Ventre

A major pipeline replacement project to improve water reliability was completed well ahead of schedule, putting the popular Benedict Canyon Drive back in business two months earlier than planned. The project was completed in September 2018 - two months early - because of a well-coordinated effort involving LADWP Water System staff working in partnership with the office of Councilmember Paul Koretz (5th District) and other City of Los Angeles agencies. The efficient work is expected to an estimated \$1.8 million.

Constructed by LADWP's Western District crews, the project replaced 5,200 feet of pipeline that had been originally installed in the 1960s with new 12-inch steel pipeline along Benedict Canyon Drive, south of Mulholland Drive to Hutton Drive, as well as a new 8-inch steel pipeline along Liebe Drive. Four new fire hydrants were also installed. This project will increase water system reliability in the area and improve the existing fire protection capabilities.

“We are very pleased that this challenging project went smoothly and was completed sooner than anticipated,” LADWP General Manager David H. Wright said. “It is a tribute to the dedication and professionalism of everyone involved, but it is also due to the patience and understanding demonstrated by local residents, commuters and community leaders during the construction period.”

The effort began in early 2018 with outreach to the local community to solicit feedback on issues involving traffic and local access, spearheaded by LADWP's Water Distribution Division and members of the Communications, Media and Community Affairs and Marketing and Economic Development teams. The project was then tailored to address that feedback and to accommodate the needs of the local community and motorists, which included the placement of LADWP Security Services Officers and traffic control officers at several locations in Benedict Canyon and neighboring Deep Canyon to manage traffic in and around the project area.

The Benedict Canyon project is part of LADWP Water System's efforts to upgrade the infrastructure throughout its service area. LADWP operates and maintains over 7,300 miles of water transmission and distribution pipes. LADWP's goal is to replace all pipes as they near the end of their expected lifespan.

As part of the Water System's strategic plan, almost 250 miles of pipe have been replaced since 2006. Distribution pipe replacement will increase for the next five years to 300,000 feet in 2023.