

Red Eléctrica commences the cable laying works for the new submarine link that will interconnect the islands of Lanzarote and Fuerteventura

- The new interconnection, which is scheduled to be commissioned in the first quarter of 2022, consists of a three-core 132 kV submarine cable and three single-core cables for the land sections.
- The route includes 14.5 km of cable laid on the seabed, at a maximum depth of 80 metres, and 1.8 km of cable installed underground in Lanzarote and 645 metres in Fuerteventura.
- The cable laying works will be carried out by the cable-laying vessel (CLV) 'Leonardo Da Vinci', one of the most modern in the world.

Lanzarote, 16 November 2021

Red Eléctrica de España has today started the cable laying works for the new 132 kV electricity interconnection between the new substations of Playa Blanca, on the island of Lanzarote, and La Oliva, on Fuerteventura. This link will definitively improve the security and quality of supply on the two islands, facilitate their progress in the energy transition, contribute to maximising the evacuation of renewable energy under safe conditions for the system and decrease dependence on fossil fuels as well as reduce CO₂ emissions on the islands of Lanzarote and Fuerteventura.

Once the surveying works and the preparation of the route along which the submarine cable will run according to that which is planned have been carried out, the electricity cable will be connected to the Lanzarote junction box, and then, the cable-laying vessel, the Leonardo Da Vinci, will begin operations to lay the cable on the seabed along the 14.5 km stretch between the islands, a task which is estimated to last 10 days, provided that weather conditions are favourable. Subsequently, the underwater cable protection works, which are expected to last one month, will be carried out.

The cable laying work was supervised on-site today by the Director General for Energy of the Canary Islands Government, Rosa Ana Melián Domínguez; the Mayor of Yaiza, Óscar Manuel Noda González; Red Eléctrica's Manager of Investment Projects and Transmission Management Area, Ramón Granadino Goenechea; Red Eléctrica's Project Manager, Antonio Sanz Ayllón and Red Eléctrica's Delegate in the Canary Islands, Ainara Irigoyen Zarragoicoechea.

This new interconnection, which represents an investment of €36 million and which is scheduled to be commissioned in the first quarter of 2022, consists of a single high-voltage alternating current circuit with a power transmission capacity of 120 MVA and a voltage of 132 kV.



The new interconnection strengthens the other existing interconnection between the two islands, which was commissioned in 2005 and carries electricity at 66 kV in alternating current, and that, at the time, helped to establish an electricity system that currently benefits from a total 476 MW of conventional and renewable installed power capacity. Thanks to the new link that is being built and the redundancy capacity it brings to the interconnection, the robustness of the electricity system on both islands will be bolstered and, what is more important, will improve the maintenance possibilities and conditions of the systems and will contribute to eliminating energy generation constraints.

Preliminary project work and cable-laying works

Prior to the start of the laying of the submarine cable, the two land sections where the cable is to be buried underground were carried out on both Lanzarote and Fuerteventura. Additionally, in order to provide proper land access to the cable from the sea, horizontal directional drilling has been used on both islands in order to protect the cables close to the coast and to minimise the impact on the beaches and the coastal strip.

Similarly, environmental, geophysical and geotechnical surveying work has been carried out along the entire route of the submarine cable and in the land areas that lead up to the two connection substations (one in Lanzarote and the other in Fuerteventura), in order to detect areas that have the greatest environmental quality and thus design a route that minimises the impacts on both the land and marine environments.

Taking into account the remarkable wealth of biodiversity on both islands, the different types of seabed and natural environments in the surrounding waters of the islands were also mapped; a high-precision bathymetric map was made to determine the seabed depths in the areas affected by the cable-laying works, and specific studies were carried out regarding the currents, water and sediment quality and the biological state of the fauna and flora communities present in the coastal waters of the islands.

With the work that begins today, the correct positioning of the cable on the seabed is guaranteed, thanks to the monitoring of the works provided through the use of a remote-controlled vehicle that controls and ensures the cable is properly laid and buried in the sandy seabed. This is achieved by way of a technique that uses pressurised water jets¹ to open the channels where the cable is to be laid along the majority of the underwater route, although in other sections, where the seabed is rocky, a trench will be dug using an underwater robot, which will later be covered with the extracted materials². The complete cable-laying process will be complemented through the use of 'metal casing' to ensure the protection of the cables.

The cable-laying vessel 'Leonardo Da Vinci'

The submarine electricity interconnection between Lanzarote and Fuerteventura is one of the first cable installation works of the vessel 'Leonardo Da Vinci,' one of the most modern in the world, which came into operation last August, joining the fleet of state-of-the-art cable-laying vessels of the Prysmian Group; world leader in the sector of energy and telecommunications cable systems.



The vessel is equipped with the most modern DP3 positioning and seakeeping system. Prysmian has designed all the cable handling and installation equipment. Furthermore, it is a cutting-edge vessel, in terms of sustainable performance, as it guarantees a reduced environmental footprint: over 80% of its lighting systems consists of energy-efficient LEDs, which mean a reduction of the emissions produced by its diesel generators. In addition, it is powered by the most efficient and environmentally friendly engines that help contribute to reducing NOx emissions by 85% and, that therefore, enable the capabilities of the vessel to meet the most stringent international environmental requirements.

1. *Jetting. Technique used to protect the cable by directing pressurized water into the sandy seabed to open a channel that allows the cable to fall into it by its own weight to a previously defined minimum depth. Subsequently, the sand removed falls on the cable again, leaving it covered and protected.*
2. *Trenching. Technique used to protect the cable in areas where there is sedimentary rock, and which requires a rock cutter to make a trench and remove the rock in which to bury the cable. Following this operation, the cable is deposited in the trench and subsequently covered and protected with the same rock or, in its absence, with sea sand.*