KINECTRICS
a BWXT company

Off-Shore Array HV Cable System Commissioning Testing

Overview.

Off-shore wind is a reliable and cost-effective energy source that plays a key role in addressing climate change. As the demand for off-shore wind increases, technological advances will continue to utilize high voltage inter-array cables.

To mitigate risks related to the performance of HV array cables, **Kinectrics offers proven off-shore commissioning testing for HV and EHV cable systems**, such as:

- Lightweight, modular Resonant Test Sets (RTS) with proven partial discharge monitoring technology
- Capability to test entire cable strings rated 66/72 kV up to 40 km (24.8 miles)
- Early detection of installation-related, life-limiting defects prior to energization
- Testing in accordance with international standards, including IEC 63026, and industry guides such as CIGRE TB 728 and CIGRE TB 841

How Our System Set Up Works

1

Each module of the **test system is enclosed in a DNV certified 10ft container** weighing less than 3.7 metric tonnes (8200 lb).

2

The **modular design of the resonant test reactors helps** reduces the space needed on the off-shore substation site.

3

The main part of the system is placed on the deck connecting the **Inter Array Cable String** under test to the **Resonant Test Set**.

The system can typically be erected in less than two days allowing for one, two or three conductors of a string to be tested in a 10 hour shift. The commissioning tests can be performed during night shifts to ease work planning complications associated with other on-going work on the off-shore substation (OSS).

Why Us?

Complete Off-Shore Cable Testing

For over 40 years, Kinectrics has been performing field commissioning testing of MV and HV cable systems using a combination of withstand and partial discharge monitoring. Through innovations and committee work with IEEE, CIGRE and IEC, Kinectrics continues to drive the industry forward with new test methodologies.

Kinectrics' team is well equipped to meet changing commissioning schedules to execute off-shore inter-array and export cable testing safely and effectively. With experience working in remote areas, satisfying pre-planning, equipment, personnel and tool contingency demands, as well as real-time assessment of data, we can help clients make informed decisions about their assets.

Full Cable Lifecycle Experience

As an independent service provider, we support Type Testing of HV and EHV cable systems, conduct forensics and in-service failures of MV, HV & EHV cable system components, that are backed by full-fledged laboratory capabilities.

Our cradle to grave experience with HV & EHV cable testing allows us to provide unique insights into long-term performance of HV & EHV cable systems based on proven test results.

Our Proven Experience

Extensive MV, HV & EHV Cable History

Kinectrics, formerly part of Ontario Hydro Research Division before being privatized, has collectively been testing MV, HV and EHV cable systems in the field since the mid-1970s.

Many of the technological approaches used today stem from the research we conducted in collaboration with other entities, such as EPRI.

Additional testing services offered include:

- PD Measurement
- Tanδ tests in conjunction with commissioning testing
- OTDR
- Dielectric Spectroscopy Tests
- TDR
- Cable Line Resonance Analysis (LIRA)

Powering innovative and sustainable energy solutions globally.

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