



Expertise in

Power Transformers for HVDC Applications

GE is a recognised and trusted partner in the design, manufacturing and commissioning of HVDC converter transformers, with almost half a century of expertise and more than 170 HVDC converter transformers sold worldwide.

HVDC Power Transmission Solutions

GE is among the top players in the world able to offer HVDC power transformers that are safe, reliable and valued by our customers.

References date back to the early 70s when Grid Solutions supplied nine 500 kVdc converter transformers to Manitoba Hydro for their Nelson River transmission project. These transformers have been up and running for more than 37 years, with no reported service failures.

Since 2000, GE has supplied Manitoba Hydro with an additional 21 HVDC converter transformers as well as back-to-back or point-to-point transmission solutions for many other utilities worldwide.

GE offers two HVDC technologies for LCC (Line-commutated current-sourced converter) and VSC (Voltage-sourced converter) applications. The latter is more commonly used for short distances and lower transmission power.

GE has the capacity to absorb strong HVDC market growth from anywhere in the world with state-of-the-art factories and equipment and a production capacity of more than 180,000 MVA per year.

The R&D teams support our global developments through intensive internal technology transfers.

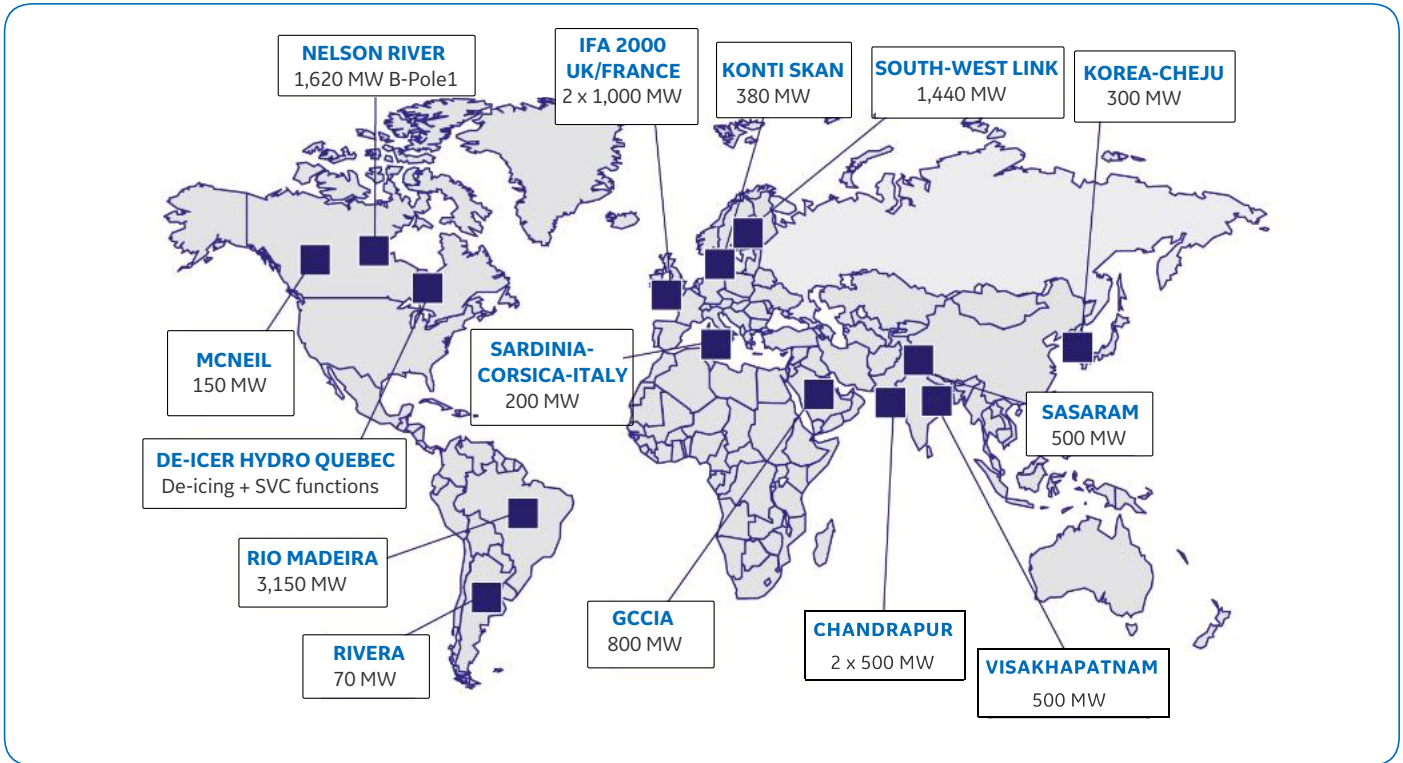
GE has an active participation in international standards committees with recognised expertise in many fields.

Investment in Customer-valued Innovations

- Heavy investments in R&D to extend the product range up to the highest UHVDC levels.
- In July 2010, Grid Solutions successfully tested a full scale model of an 800 kV UHVDC converter transformer in the Wuhan factory (China), compliant with IEC and Chinese standards.
- Since 2011, Grid Solutions has been working on a common 1,100 kVdc development project with one of the largest utility companies in the world.
- GE is also developing dry bushing solutions for UHVDC applications, including the Resin Impregnated Paper (RIP) technology.



Worldwide Project Expertise



GCCIA

Interconnecting Gulf Member States

In 2009, GE won a contract for the first HVDC turnkey project in the Gulf aimed at interconnecting the six Gulf member states. GE supplied and commissioned twelve 400 kV, 50 and 60 Hz DC converter transformers.



For more information please contact
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Brazil – Rio Madeira

Direct Current Technologies for Bulk Power Transmission across the World's Longest Transmission Line

GE was awarded an order for a 600 kV Ultra High Voltage Direct Current (UHVDC) bipole for the Rio Madeira project in Brazil. This is the world's longest power transmission line, with a total length of 2,375 kilometers. With the supply of 28 UHVDC converter transformers for complete converter stations, Grid Solutions confirms its position as a key innovative leader in complex HVDC converter transformers. The bipole and its two converter stations transform alternating current (AC) to direct current (DC), with the capacity to transfer 3,150 MW from the Porto Velho collector substation in the Amazon region to the Araraquara II substation in Sao Paulo, Brazil.

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Imagination at work