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Gerdau tasks Primetals Technologies with engineering and supply of one-of-a-kind power solution

- **First 69-kV STATCOM for use with an electric arc furnace in North America to be implemented at Gerdau's Petersburg plant**
- **STATCOM will stabilize local electrical grid at connection point**
- **Power solution has capacity to accommodate future production demand from electric arc furnace**

Primetals Technologies has won a contract to provide the Gerdau Petersburg plant in Virginia, U.S.A., with a 69-kV static synchronous compensator (STATCOM) to support the operation of the plant's alternating current electric arc furnace (AC EAF). Once commissioned, it will be the largest industrial STATCOM ever implemented at a steelmaking plant in North America.

Grid stabilization

In steelmaking, large and varying electrical loads coming from electric arc furnaces (EAF) may cause disturbing effects in the electrical supply system. The disturbance is caused by fluctuations in reactive power and/or unsymmetrical loads. A STATCOM mitigates flicker by providing or absorbing reactive current at the point of connection between the mill's electrical distribution infrastructure and the utility power system. The 69-kV STATCOM with an insulated-gate bipolar transistor (IGBT) module provides a dynamic and fast response, which cannot be achieved by a conventional static voltage compensator (SVC) system with thyristor-controlled reactors.

Implementing complex technology

In 2022, Primetals Technologies worked with a team at the Gerdau Petersburg plant to develop the conceptual design for the 69-kV STATCOM and model AC EAF operation under present and future conditions. Gerdau Petersburg has accepted the conceptual design for the project and groundbreaking is imminent. All work will be completed within the next 27 months.

This order demonstrates Gerdau's confidence in the Primetals Technologies team. Implementing such complex technology requires deep knowledge of AC EAFs and grid-level electrical power systems — expertise that differentiates Primetals Technologies from most electrical power designers.

Key facts: The STATCOM at Gerdau Petersburg

Most STATCOMs used in steelmaking operations have a direct-connection voltage of only 13.8 kV or 34 kV. This STATCOM provides 69 kV, which the Gerdau Petersburg plant will use to:

- Ensure continuity of operation for the current plant and its 69-kV primary AC EAF transformer
- Double dynamic reactive power support
- Sustain AC EAF production volume without any impact on the power grid of the electrical utility



Primetals Technologies will supply an industry-first, 69-kV static synchronous compensator (STATCOM) for the Gerdau mill in Petersburg, Virginia, USA. Pictured here is a 34.5kV STATCOM that Primetals Technologies recently supplied to Gerdau in Cartersville, Georgia, U.S.A.

This **press release** and a **press picture** are available at www.primetals.com/press

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