Press release

Munich, May 4, 2021

Siemens Energy's grid stabilizer technology to help Irish grid exceed renewables penetration limit

- Supply of Ireland's first turnkey synchronous condenser system
- Installation of the world's largest flywheel
- Ensuring grid stability by providing sufficient inertia, short-circuit power and reactive power

Siemens Energy will supply a synchronous condenser system to the Electricity Supply Board (ESB), Ireland's leading energy company. The grid stabilizing system will be developed at the Moneypoint power station located in South-West Ireland near Kilrush, County Clare. ESB recently announced the launch of Green Atlantic @ Moneypoint, an ambitious plan to transform the County Clare site into a green energy hub, where a range of renewable technologies will be deployed over the next decade with the capacity to power 1.6 million homes.

The synchronous condenser, a key component of ESB's Green Atlantic @ Moneypoint project, will be the first in the country and incorporate the world's largest flywheel used for grid stability. The facility will enable an increased integration of wind power into the Irish grid by providing sufficient inertia for frequency support, short-circuit power for system strength and reactive power for voltage control. Commissioning of the new plant is planned for mid-2022.

Paul Smith, Head of Asset Development at ESB Generation and Trading, welcomed the announcement: "Due to the intermittency of wind energy in particular, grid stabilization technologies have an increasingly important role in a successful energy transition. We are pleased to bring forward the Moneypoint Synchronous Compensator with flywheel as a cost effective and zero carbon solution in strengthening the stability and resilience of the Irish grid. Siemens Energy provided an optimum technical and competitive solution for Moneypoint in its continuing key role in Ireland's electricity system."

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Siemens Energy will deliver the synchronous condenser system, providing engineering, procurement, and construction. Key components are a control system which optimally fits to the overlaying grid automation system, a synchronous generator with circuit-breaker and a flywheel. In addition, Siemens Energy will provide the preventive maintenance for ten years with remote diagnostics. The synchronous condenser will, in turn, help management of Ireland's transmission system with a reduced dispatch of fossil fuel plant under constraints and reduced costs of transmission operations.

"Synchronous condensers are an important building block for mastering the transition to climate-neutral, CO_2-free power generation," says Beatrix Natter, Executive Vice President Transmission at Siemens Energy. "We are proud that ESB has chosen us to build the first system of this kind in Ireland. Our solution will provide the maximum possible inertia and reactive power to stabilize the Irish grid, helping the country press ahead with its ambitious plans for the expansion of renewable energies."

Nick O'Mahony, Managing Director, Siemens Energy, Ireland, added: "The energy transition is happening at pace and to make sure the grid can keep up, we need to look at innovative solutions to keep the grid stable. I'm delighted we have been able to support ESB with this project, bringing this key technology to the country."

With the rising share of renewable power and the shutdowns of conventional plants, synchronous condensers are playing an increasingly important role in the grid. By means of the rotating mass of a conventional generator, the solution adjusts conditions on the transmission grid, provides the necessary inertia to support the grid frequency and short-circuit contribution while also providing or absorbing reactive power. In addition, synchronous condensers can diversify revenue for owners and operators while providing an important cash flow contribution.

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This press release and a press picture are available at https://press.siemens-energy.com/global/en/pressrelease/siemens-energys-grid-stabilizer-technology-help-irish-grid-exceed-renewables

For further information on Siemens Energy Transmission, please see https://www.siemens-energy.com/global/en/offerings/power-transmission.html

For further information on synchronous condensers, please see https://www.siemens-energy.com/global/en/offerings/power-transmission/facts/portfolio/synchronouscondenser.html

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