Steel maker considers use of NuScale SMRs at its mills

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NuScale Power has signed a memorandum of understanding (MoU) with North American steel manufacturer Nucor Corporation to explore the deployment of NuScale's VOYGR small modular nuclear reactor (SMR) power plants at Nucor's scrapbased Electric Arc Furnace (EAF) steel mills.



An Electric Arc Furnace (Image: Nucor)

As part of the MoU, the companies will evaluate site suitability, transmission interconnection capabilities and capital costs for potential NuScale plants to be sited near and provide carbon free electricity to Nucor EAF steel mills.

In addition, NuScale will study the feasibility of siting a manufacturing facility for NuScale Power Modules near a Nucor facility.

The companies will also explore an expanded manufacturing partnership through which Nucor - the largest steel producer and recycler of any type of material in North America - would supply Econiq, its net-zero steel products, for NuScale projects.

Nucor describes Econiq as "the world's first net-zero steel at scale". It adds: "Econiq is not a single product; it is a net-zero certification, which can be applied to any product from Nucor's steel mills." The company said it achieves net-zero on Econiq products by using electricity from 100% renewable sources and by purchasing carbon offsets.

In April 2022 Nucor - which manufactures steel and steel products, with operating facilities in the USA, Canada and Mexico - committed to a USD15 million private investment in public equity in NuScale Power.

"NuScale is thrilled to take this step forward with Nucor, a company that shares our commitment to sustainability and deeply understands the role of NuScale's technology in delivering clean, reliable baseload power to support the global energy transition," said NuScale President and CEO John Hopkins. "We look forward to determining how our SMR technology can best serve Nucor's sophisticated steelmaking operations and how our companies can work together to drive a more sustainable future."

"Nucor is committed to supporting the development of transformative technologies that will deploy safe, reliable, affordable, 24/7, base-load carbon free power, like NuScale's VOYGR SMR plants," said Nucor President and CEO Leon Topalian. "Not only will Nucor's partnership with NuScale help pave the way for a zero-carbon energy future for our nation, but we will be building this new generation with the cleanest steel products made anywhere in the world."

The NuScale Power Module on which the VOYGR nuclear power plants are based is a pressurised water reactor with all the components for steam generation and heat exchange incorporated into a single 77 MWe unit. It is the first SMR design to receive approval from the US Nuclear Regulatory Commission. The company offers a 12-module VOYGR-12 power plant is capable of generating 924 MWe as well as the four-module VOYGR-4 (308 MWe) and six-module VOYGR-6 (462 MWe) plants and other configurations based on customer needs.

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