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## DOE eyeing loan guarantee for revitalized Grain Belt Express power line

**Jeff Beattie**

The Energy Department is considering granting a loan guarantee to the recently revived Grain Belt Express Transmission line project, *The Energy Daily* has learned. If granted to underwrite the power line — which would cross four states and knit together four power markets — it would mark the first loan guarantee that the DOE has issued for a high-voltage, direct-current power line.

The development was revealed in the *Federal Register* Friday, in which the DOE announced plans to prepare an environmental impact statement on the potential impacts of providing a loan guarantee for Grain Belt, a proposed 800-mile line that would ship 5,000 MW of wind and solar power from Kansas eastward to the Illinois-Indiana border. The loan guarantee would support Phase 1 of the project, a 500-mile stretch from Ford County, Kansas to Monroe County, Missouri.

The federal loan guarantee comes after several years of work by Grain Belt's owner, Invenergy, to revive the project.

The initial developer, Clean Line Energy Partners, closed its doors in 2018 after failing to win needed approval for several high-voltage direct-current, or HVDC, projects designed to deliver renewable resource generation to market. The Grain Belt project, in particular, faced stiff opposition in Missouri, where landowners and regulators saw the line as providing Missourians more costs than benefits.

Since acquiring the project in 2018, Invenergy has upsized the line to 5,000 MW and decided to deliver 2,500 MW into Missouri, instead of using Missouri as a throughway. Company officials also decided to use voltage source converters

(VSC) on the line, which allow for the sale of ancillary services that are not available from HVDC lines that use more traditional converters.

Missouri regulators approved the revised project in 2019, although some lawmakers and landowners are still battling the project.

However, company officials say the project will deliver grid-stabilizing services and 5,000 MW of emission-free power that customers, utilities and states are increasingly demanding. Furthermore, Invenergy says the project's huge scale will boost reliability by helping to knit together four regional grid systems: The Southwest Power Pool, Midcontinent Independent System Operator, PJM Interconnection and Associated Electric Cooperative, a Missouri-based generation and transmission cooperative.

"We think this is the right project, at the right time," given the needs of the grid and growing demand for cleaner power, said Shashank Sane, Invenergy's senior vice president for transmission, in a Dec. 17 interview.

In a written statement Friday, the company said: "We are pleased the U.S. Department of Energy Loan Programs Office has issued a Notice of Intent considering Invenergy Transmission's application for a loan guarantee for Phase 1 of the Grain Belt Express transmission project.

"Pursuing financing for construction is a significant step for this critical U.S. energy infrastructure project, and we look forward to a timely and effective regulatory review as we prepare for full construction of Phase 1 to start by the end of 2024."

Company officials declined to describe the size of the loan guarantee Invenergy is seeking for the project, and said that is

typically the result of negotiations with the DOE. The DOE allows for loan guarantees covering up to 80 percent of project costs; Invenergy has estimated that the entire Grain Belt project — Phases 1 and 2 — will cost about \$7 billion.

However, those estimates — like those of nearly every major energy project currently being considered — could be in flux given that current inflation and supply chain woes are routinely forcing developers to increase cost projections. With that in mind, a DOE loan guarantee, which can substantially cut financing costs, would be a big boost for the project.

Invenergy is applying to a DOE program that offers loan guarantees to "innovative technology to reduce, avoid, or sequester greenhouse gas emissions." While HVDC technology itself is not new, Invenergy argues that its use of the technology — to move so much clean power to so many markets — is innovative, as is the use of voltage source converters to enable the sale of ancillary services.

The DOE has not previously provided a loan guarantee for an HVDC project. However, it has provided one for at least one transmission project. In 2011, the DOE provided a \$343 million loan guarantee to finance the One Nevada Transmission Line project, a 235-mile, alternating current line that used an innovative type of tower with an unusually small footprint, according to the DOE.

Invenergy has won needed approvals for the project from regulators in Indiana, Kansas and Missouri and submitted a new application to Illinois regulators last summer. The company has filed in Missouri for an amendment to its certificate to reflect recent project changes and says it may need to do so in Kansas as well.