

Department of Energy
Build America, Buy America Act
Project-Specific Non-availability Waiver
for Invinity Energy Systems' Vanadium Redox Flow Batteries
BABA WAV 2025-13

Waiver Summary: The United States Department of Energy (DOE) Office of Clean Energy Demonstrations (OCED) is issuing a project nonavailability waiver of the manufactured products and construction materials domestic preference requirements of section 70914 of the Build America, Buy America Act (BABA) included in the Infrastructure Investment and Jobs Act (Pub. L. No. 117-58) as applied to one federal financial assistance award for the Dairyland Power Cooperative (Dairyland). This limited nonavailability waiver allows Dairyland to purchase non-compliant Invinity Energy Systems (Invinity) battery packs along with its component battery containers and housings, also known as Battery Energy Storage Systems (BESS).

Duration of the waiver: The effective date of this waiver is from date of issue to December 31, 2027.

Applicability: The waiver applies to eligible expenditures incurred by the recipient on or after the effective date of the final waiver for the period that the waiver is active.

Recipient: Dairyland Power Cooperative (DRAXZ35QNR3)

Total estimated project cost related to infrastructure: \$53,660,346

Estimated total cost of products being waived: \$23,000,000 - \$24,000,000

Waiver Type: Nonavailability waiver of the BABA manufactured product requirements for the product listed below.

Waiver Level: Project-specific waiver for one award.

Funding Mechanics: Funding for the infrastructure project is made available through the Long-Duration Energy Storage Demonstration Projects Funding Opportunity Announcement DE-FOA-0002867. The location of the projects proposed BESS installations are Waukon, Iowa, Wyeville, Wisconsin, and Fretress Lake, Illinois. The period of performance of this award is approximately 9 years and 8 months, from November, 2024 to April, 2033. Initial long lead procurement deposit for the items is expected no later than the end of Budget Period number one of the award, no later than April 30, 2026.

Description of Covered Items: This waiver covers Invinity Energy Systems' Vanadium Redox Flow Batteries (VFBs) – battery pack and associated battery container/housing (NAICS 335910).

Dairyland leveraged market research conducted by the National Renewables Cooperative Organization (NRCO), a member-owned not-for-profit cooperative whose mission is to empower the clean energy transition for America's electric cooperatives. NRCO was the initial applicant for this cooperative agreement with the Dairyland as a subrecipient. With DOE support, Dairyland has taken the prime

recipient position. The NRCO market research focused on identification of a technology partner that meets the Technology Readiness Level required by the Funding Opportunity Announcement (FOA). NRCO's review of the VFB market resulted in no existing US-based producer and a high unlikelihood that an alternative VFB supplier would be positioned to provide BABA-compliant VFBs for this project.

In addition, OCED reviewed and considered the recipient's market research, as well as conducting its own research to identify possible U.S.-based offerings. OCED assessed U.S.-based vanadium flow battery producers and found no offerings met the required Technology Readiness Level and additional FOA requirements.

Justification: NRCO Market research was conducted in the fourth quarter of 2022. NRCO's sources included Bloomberg New Energy Finance, Rystad Energy, Wood Mackenzie, American Clean Power, the MIT Center for Energy and Environmental Policy, the Energy Information Administration, Lazard, the National Renewable Energy Lab, the South Eastern Power Administration, S&P Global, S&P Capital IQ, Energy Storage News, and multiple paid news sources and industry whitepapers.

NRCO focused on a containerized battery technology with a high project site level energy density, a long lifespan, a high round-trip efficiency rating, little or no degradation, no thermal runaway risk, no hazardous chemicals, and no cycling limitations. To de-risk the project and ensure a high likelihood of a successful and replicable demonstration, NRCO also sought a vendor with a technology readiness level (TRL) of 8 or higher. Lastly, NRCO considered environmental benefits of a technology with a high amount of recyclability. In short, NRCO sought to demonstrate a highly cost-effective and promising alternative to traditional lithium-ion batteries.

Based on these criteria, and drawing on its industry knowledge and sources, NRCO narrowed its focus to four potential flow battery vendors (not all of which were VFB). NRCO identified the Invinity Endurium design as the only solution that fulfilled its criteria.

In addition, recipients may not use program funds to purchase items described in this waiver manufactured by entities owned by, controlled by, or subject to the direction of a government of a foreign country of concern, or by entities that are headquartered in a foreign country of concern, as determined by the DOE.

Impact Absent the waiver: The following impacts are expected absent grant of this Waiver:

- o DOE would be unable to fund Dairyland's procurement approach, making this project not viable and lessening the technology diversity of Long Duration Energy Systems in demonstration;
- o Invinity Energy Systems would likely reduce the initial volume of products to be manufactured in its pending U.S. facility, lowering initial headcount and production ramp speed, and;
- o Dairyland and its partners would not install these VFB's at its substations. Improvements in grid reliability and resilience would not be achieved.

Assessment of Cost Advantage of a Foreign-Sourced Product: Under OMB M-24-02, agencies are expected to assess "whether a significant portion of any cost advantage of a foreign-sourced product is the result of the use of dumped steel, iron, or manufactured products or the use of injuriously subsidized

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steel, iron, or manufactured products” as appropriate before granting a nonavailability waiver. DOE’s analysis has concluded that this assessment is not applicable to this waiver as this waiver is not based on the cost of foreign-sourced products.

Solicitation for Comments: The proposed waiver request was publicly posted by the Department of Energy for comments during the period of December 18, 2024 through January 2, 2025. No comments were received from the public, and therefore no substantive changes were made in response.