

April 23, 2025

Pipeline & Hazardous Materials Safety Administration
1200 New Jersey Ave, SE East Building, 2nd Floor
Washington, DC, 20590

RE: Letter of Interpretation

To Whom It May Concern,

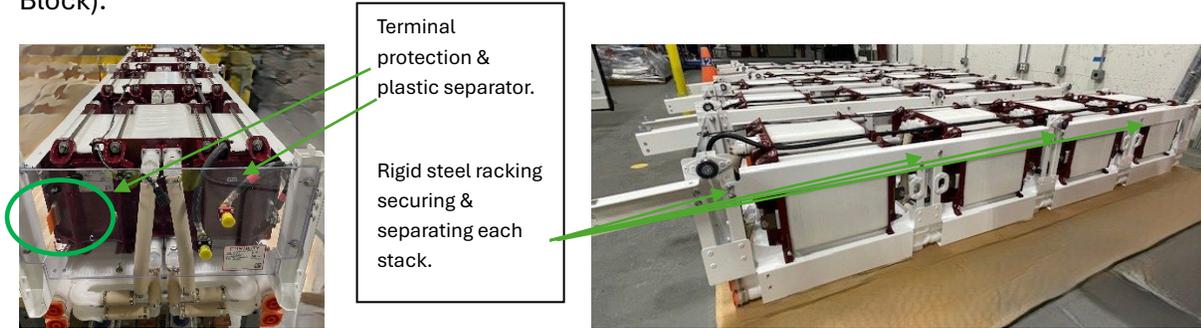
Invinity Energy Systems designs and manufactures vanadium flow batteries for stationary energy storage applications. The battery is accurately classified under: UN2794 Batteries, Wet, Filled with Acid. The battery contains a proprietary, non-flammable, aqueous electrolyte solution containing vanadium sulfate.

We are requesting confirmation that our interpretation of 49CFR 173.159 is correct. The mode of transport for the battery will be highway(road), which requirements are outlined in 49CFR 173.159(e).

The battery will be transported by highway(road) mode of transport under the following conditions:

- The battery is shipped fully discharged.
- As it is a flow battery the power and energy storage elements (tanks) of the battery are physically separated. The power elements (stacks) contain no stored energy during transportation.
- Voltage present on the terminals during transportation is 0 V.
- Stacks have no exposed terminals, which prevents short circuiting.
- Each stack is firmly secured within a rigid metal racking system that separates each stack, adding to the short circuit protection mechanism. (Refer to Picture 1)
- The metal racking system containing the stacks is firmly secured and integrated into a 20-foot ISO/CSC certified steel container. (Refer to picture 2)
- 20-foot ISO/CSC certified container has re-enforced structures, fixtures and secondary containment. (Refer to Picture 3)
- No other dangerous material will be shipped with a complete unit.
- The transportation vehicle will never contain other commodities.

Picture 1: Stack firmly secured in rigid metal racking & plastic shield on front facing stack(Power Block).



Picture 2 : Power block firmly secured in container.



Picture 3: ISO/CSC certified container.



We are confident that the above information confirms that the battery meets the requirements of 49CFR 173.159(e) for transportation by highway(road) but seek confirmation that our interpretation is correct.

Sincerely,

D. Polman-Tuin

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