

May 3, 2022

VIA EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
100 F. Street, N.E.
Washington, D.C. 20549
Attention: Erin Purnell
Bradley Ecker

**Re: Energy Vault Holdings, Inc.
Amendment No. 2 to Registration Statement on Form S-1
Filed April 8, 2022
File No. 333-262720**

Ladies and Gentlemen:

On behalf of Energy Vault Holdings, Inc. (the “*Company*”), this letter responds to the comments set forth in the letter to the Company dated April 22, 2022 from the staff of the Securities and Exchange Commission (the “*Staff*”), with respect to the above-referenced Amendment No. 2 to Registration Statement (the “*Registration Statement*”). For your convenience, we have repeated and numbered the comments from the April 22, 2022 letter in italicized print, and the Company’s responses are provided below each comment.

On behalf of the Company, we are also electronically transmitting for filing an amended version of the Company’s Amendment No. 3 to Registration Statement on Form S-1 (“*Amended Registration Statement*”).

Amendment No. 2 to Registration Statement on Form S-1

Selling Securityholders, page 102

- We note your disclosure on page 108 in response to comment 1 that based on the closing prices of your securities on April 7, 2022, the selling securityholders would have a potential unrealized gain of approximately \$1.3 billion in the aggregate. Please revise to include this disclosure on the cover page.*

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RESPONSE TO COMMENT 1:

The Company has revised its disclosures on the cover page of the Amended Registration Statement’s prospectus to disclose the potential unrealized gain that the selling securityholders would have in the aggregate based on prevailing market prices for the Company’s securities.

[Remainder of page intentionally left blank.]

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Please do not hesitate to contact me at (650) 463-5335 if you have any questions or would like additional information regarding this matter.

Very truly yours,

/s/ Jeffrey R. Vetter

cc: Robert Piconi
Energy Vault Holdings, Inc.

Michael Irvine
Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP

