UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

September 12, 2025

Shawn Matthews
Chief Executive Officer
HCM II Acquisition Corp.
100 First Stamford Place, Suite 330
Stamford, CT 06902

Simon Irish
Chief Executive Officer
Terrestrial Energy Inc.
9319 Robert D. Snyder Rd.
Charlotte, NC 28223

Re: HCM II Acquisition Corp.
Amendment No. 2 to Registration Statement on Form S-4
Filed on September 4, 2025
File No. 333-288735

Dear Shawn Matthews and Simon Irish:

We have reviewed your amended registration statement and have the following comments.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe a comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to this letter, we may have additional comments. Unless we note otherwise, any references to prior comments are to comments in our August 28, 2025 letter.

Amendment No. 2 to Registration Statement on Form S-4

Dilution, page 20

1. We note that some of the numbers in your dilution disclosures are not consistent with those disclosed elsewhere in the filing (e.g., number of shares to be issued to Terrestrial Energy Stockholders; the number of Terrestrial Energy shares outstanding post de-SPAC, etc.). Please revise to resolve these inconsistencies or explain.

Material U.S. Federal Income Tax Considerations of the Merger to Holders of Terrestrial Stock and Terrestrial Energy, page 202

2. Please revise this section to state clearly that the disclosure is the opinion of named counsel. Refer to Section III.B.2 of Staff Legal Bulletin 19. The opinion filed as Exhibit 8.2 assumes “the information set forth in the Registration Statement . . . is true, correct and complete." This assumption appears overbroad, since it includes the tax discussion being opined upon; please request counsel to revise accordingly. Additionally include the date of the representation letters in the final opinion.

Unaudited Pro Forma Condensed Combined Financial Information, page 209

3. Your disclosure on page 308 stated that it is expected that Terrestrial Energy or New Terrestrial will consider one-time additional equity awards to recognize extraordinary services provided in connection with the Business Combination. Where you provide pro forma information, please revise to disclose the nature and terms of the awards to be granted, how you plan to account for those awards, and potential impact on the post-combination company. Also, ensure that any granted awards are appropriately reflected in the pro forma information.

Adjustments to Unaudited Pro Forma Condensed Combined Balance Sheet
Adjustment (F), page 216

4. You state that adjustment (F) was recorded to give effect to the issuance of 97,200,530 New Terrestrial Common Shares to the existing stockholder of Terrestrial Energy. However, the table disclosed on page 212 and elsewhere throughout the filing appear to indicate that that 62,176,098 shares are expected to be issued to those shareholders. Please revise to correct the inconsistencies.

Notes to Condensed Consolidated Financial Statements
Note 5. Stockholders' Deficit
Exchangeable Shares, page F-59

5. Your revised disclosures in response to prior comment 8 stated that in the event the Company declares dividends on its common stock, exchangeable shareholders are entitled to receive the same dividends from ExchangeCo. Considering that ExchangeCo will be making the distribution in such event, the exchangeable shareholders appear to hold the economic interest in ExchangeCo. Please revise your presentation accordingly (e.g., present exchangeable shares as non-controlling interests) or explain why you believe your existing presentation is appropriate with references to authoritative literatures you relied upon to support your conclusion.

Exhibits

6. We note revisions to the exhibit index identifies Exhibits 3.2 and 3.3 as corporate documents of HCM II following domestication, and Exhibit 3.6 as a document of Terrestrial Energy Inc. Please revise to clarify that these reflect the corporate documents of the post-combination company, clearly distinguishing them from the SPAC corporate documents, and ensure consistency with the table of contents, which refers to New Terrestrial Energy corporate documents. Additionally ensure that the

securities of the post-combination company are clearly identified as such in the exhibit index. We further note that Exhibit 3.4 does not appear to be filed; please file or revise the index accordingly.

7. We note you have filed the Form of Assignment and Assumption Agreement as Exhibit 4.7. Please also file the Terrestrial Warrant and related Warrant Agreement.

Please contact Eiko Yaoita Pyles at 202-551-3587 or Hugh West at 202-551-3872 if you have questions regarding comments on the financial statements and related matters. Please contact Sarah Sidwell at 202-551-4733 or Jennifer Angelini at 202-551-3047 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Manufacturing

cc: Kevin Manz
Eliot Robinson