

December 22, 2022

VIA EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
Office of Industrial Applications and Services
100 F Street NE
Washington, D.C. 20549
Attn: Dillon Hagius and Laura Crotty

**Re: AMCI Acquisition Corp. II
Amendment No. 3 to Registration Statement on Form S-4
Filed December 12, 2022
File No. 333-264811**

White & Case LLP
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Dear Mr. Hagius and Ms. Crotty:

On behalf of our client, AMCI Acquisition Corp. II, a Delaware corporation (the “Company” or “AMCI”), we are writing to submit the Company’s responses to the comments of the staff of the Division of Corporation Finance (the “Staff”) of the United States Securities and Exchange Commission (the “Commission”) contained in the Staff’s letter dated December 19, 2022 (the “Comment Letter”), with respect to the above-referenced Registration Statement on Form S-4, filed on December 12, 2022 (the “Registration Statement”).

The Company has filed via EDGAR Amendment No. 4 to the Registration Statement (“Amendment No. 4”), which reflects the Company’s responses to the comments received by the Staff and certain updated information. For ease of reference, each comment contained in the Comment Letter is printed below in bold and is followed by the Company’s response. All page references in the responses set forth below refer to page numbers in Amendment No. 4. Capitalized terms used but not defined herein have the meanings set forth in Amendment No. 4.

Amendment No. 3 to Registration Statement on Form S-4

Additional Conditions to the Obligations of LanzaTech, page 156

- 1. You disclose on page 157 that, in the event that it becomes reasonably apparent to the parties that the Minimum Closing Cash Condition will not be satisfied, AMCI agrees to use commercially reasonable efforts to enter into non-redemption agreements or similar agreements as may be necessary to satisfy this Condition. Please revise to clarify whether any non-redemption agreements will be fully disclosed for shareholders to consider in advance of the Special Meeting and, to the extent you intend to provide such information to shareholders, disclose how you will inform your shareholders of arrangements formed after effectiveness. Please also disclose whether you have or are currently negotiating any such non-redemption agreements.**
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Response: The Company acknowledges the Staff's comment and respectively submits that while it has not yet entered into any non-redemption or similar agreements or arrangements as of the date hereof, to the extent that it does enter into any such agreements for after effectiveness of the Registration Statement, it intends to fully disclose such arrangements on an appropriate form on EDGAR for stockholders to consider in advance of the Special Meeting. In connection with such disclosure, the Company may determine to adjourn or postpone the Special Meeting to allow time for consideration of such agreement. In order to clarify the above, the Company has added disclosure on page 174 of Amendment No. 4.

LanzaJet Shareholder Loan, page 293

- 2. We note your response to our prior comment 5. Please provide a quantitative and qualitative analysis supporting your determination that the Note Purchase Agreement is not material to the company within the meaning of Item 601(b)(10) of Regulation S-K. In this regard we note that the aggregate principal amount of the Note Purchase Agreement could total \$147 million and that certain of the notes related to this Agreement are secured by a security interest over the intellectual property owned or in-licensed by LanzaJet.**

Response: In response to the Staff's comment, the Company has added disclosure on page 248 of Amendment No. 4 and filed the Note Purchase Agreement as Exhibit 10.43 to Amendment No. 4.

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Please do not hesitate to contact Elliott Smith of White & Case LLP at (212) 819-7644 with any questions or comments regarding this letter.

Sincerely,

/s/ White & Case LLP

White & Case LLP

cc: Nimesh Patel, AMCI Acquisition Corp. II