

October 11, 2022

**VIA EDGAR**

United States Securities and Exchange Commission  
Division of Corporation Finance  
Office of Life Sciences  
100 F Street, NE  
Washington, D.C. 20549

Attn: Dillon Hagius  
Laura Crotty

**Re: AMCI Acquisition Corp. II  
Registration Statement on Form S-4  
Filed May 10, 2022  
File No. 333-264811**

Dear Mr. Hagius / 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 June 9, 2022 (the “Comment Letter”), with respect to the above-referenced Registration Statement on Form S-4, filed on May 10, 2022 (the “Registration Statement”).

The Company has filed via EDGAR Amendment No.1 to the Registration Statement (“Amendment No.1”), 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.1. Capitalized terms used but not defined herein have the meanings set forth in Amendment No.1.

Registration Statement on Form S-4 filed May 10, 2022

General

- 1. Please disclose the maximum redemption level, expressed as a percentage, that would permit completion of the business combination both on the cover page and where discussed throughout the filing, including, but not limited to, in relation to the tables on pages 12, 14 and 15. We note your disclosure on page 153 to this effect.**

Response: In response to the Staff’s comment, the Company has added disclosure on the cover page and pages 13, 17, 41, 93, 144, 187, 188 and 285 of Amendment No. 1 to show the maximum redemption level.

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2. **Please identify the PIPE Investors on an individual basis where the term is first used and defined. Specifically identify those investors that are existing LanzaTech stockholders and describe other relationships or affiliations with AMCI, LanzaTech, and the Sponsor. Please also identify the PIPE Investor that has a SAFE Note with LanzaTech. If and when the Proposed Additional Financing is in place, please provide a description of the material terms of such financing, including the identit(ies) of the parties involved and their relationships or affiliations, if any, with AMCI, LanzaTech, and the Sponsor.**

Response: In response to the Staff's comment, the Company has revised the disclosure on the cover page. If and when the Proposed Additional Financing is in place, the Company will provide a description of the material terms of such financing.

Questions and Answers about the Business Combination and the Special Meeting

How will I be notified of the outcome of LanzaTech's stockholder vote to approve the Business Combination?, page 13

3. **Please revise the above referenced Q&A to clearly disclose:**

- **how AMCI shareholders will be notified of the outcome of the LanzaTech's stockholder vote regarding the business combination;**
- **that AMCI may terminate the agreement if the LanzaTech Requisite Approval is not obtained within ten business days following the effectiveness of this registration statement; and**
- **the percentage of each class of LanzaTech shares that must vote in favor of the transaction, in addition to those shares already committed under the LanzaTech Stockholder Support Agreement, in order to satisfy the LanzaTech Requisite Approval requirement. Note the related risk factor on page 81 should also disclose these percentages.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 14 and 104 of Amendment No. 1.

What happens to the funds deposited in the Trust Account after consummation of the Business Combination?, page 14

4. **Please revise this Q&A to identify the underwriters that are entitled to the deferred underwriting commission of \$5,250,000.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 15 of Amendment No. 1.

How will the level of redemptions by AMCI Stockholders affect my ownership in New LanzaTech following the Closing?, page 15

5. **Revise your disclosure to show the potential impact of redemptions on the per share value of the shares owned by non-redeeming shareholders by including a sensitivity analysis showing a range of redemption scenarios, including minimum, maximum and multiple interim redemption levels.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 16, 17 and 93 of Amendment No. 1.

What interests do the Sponsor and AMCI's current officers and directors have in the Business Combination?, page 20

6. **Please quantify the out-of-pocket expenses and loans that are at risk if the business combination does not occur and provide more specificity about how the board considered the potential conflicts listed in this section when negotiating and recommending the business combination. Similarly revise the conflicts disclosure on pages 35, 68, and 109.**

Response: In response to the Staff's comment, the Company has added disclosures on pages 24, 39, 80 and 142 of Amendment No. 1.

7. **We note your disclosure on page 21 that the AMCI Insiders have waived any right to redemption with respect to the founder shares. Please describe any consideration provided in exchange for this agreement.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 23, 38, 80 and 142 of Amendment No. 1.

8. **Please disclose which of your independent directors are members of the Sponsor. Similarly revise the conflicts disclosure on pages 35, 68, and 109.**

Response: In response to the Staff's comment, the Company has revised disclosures on pages 24, 39, 80 and 142 of Amendment No. 1.

Summary of the Proxy Statement/Prospectus Information About the Parties to the Business Combination, page 27

9. **Please provide additional information about LanzaTech in the Summary section, including a discussion of the stage of development of its Platform Technology and products, its history of net losses, accumulated deficit, and its expectations around revenue generation. As currently drafted, shareholders are provided with little information regarding the business history or prospects of the target business, which is material to a decision of how to vote in relation to the proposed business combination.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 29 and 30 of Amendment No. 1.

Interests of AMCI's Directors and Officers in the Business Combination, page 35

10. **Please confirm that the conflicts of interest discussion highlights all material interests in the transaction held by the sponsor and the company's officers and directors. This could include fiduciary or contractual obligations to other entities as well as any interest in, or affiliation with, the target company. In addition, please revise your disclosure to clarify how the board considered those conflicts in negotiating and recommending the business combination.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 22, 23, 37, 38, 79 and 141 of Amendment No. 1.

Risk Factors

Risks Related to LanzaTech's Business and Industry

Our financial projections may differ materially from actual results., page 50

- 11. Please revise your statement that “[n]either we nor AMCI have any duty to update the financial projections included in this proxy statement/prospectus” to confirm that you will update or revise such disclosure to the extent required by law.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 57 of Amendment No. 1.

We expect to rely on a limited number of industry partners for a significant portion of our near-term revenue., page 56

- 12. Please identify the industry partners from which you expect to generate “most of your revenues in the near future.” Confirm that this assumption was included in LanzaTech's internally prepared forecasts, which you discuss on page 105, and specify how you define the term “near future” in the context of these projections, the latter of which we note include each of the years in the five-year period ending December 31, 2026.**

Response: The Company respectfully acknowledges the Staff's comment and advises the Staff that the industry partners referenced in the Registration Statement from which LanzaTech expects to generate most of its revenues in the near future include Suncor Energy Inc., IndianOil Corporation Limited, Mitsui & Co., Ltd., Sekisui Chemical Co., Ltd. ArcelorMittal XCarb S.à.r.l., Woodside Energy, MRPL, and Beijing Shougang LanzaTech Technology Co., Ltd. The Company respectfully confirms that LanzaTech included this assumption in its internally prepared forecasts. In the context of such forecasts and projections, the Company respectfully advises the Staff that the term “near future” relates to the projections and forecasts through December 31, 2023.

In response to the Staff's comment, the Company has revised the disclosure on page 63 of Amendment No. 1.

Political and economic uncertainty, including changes in policies of the Chinese government or in relations between China.... page 63

- 13. We note the above entitled risk factor discussing your operations in China, your joint venture and your joint venture partners in China, and certain of your strategic investors located in China, including Sinopec Capital Co, Ltd. Please revise your filing, as applicable, to provide more specific and prominent disclosures about the legal and operational risks associated with China-based companies or explain why such comments are not applicable to the company. Please see the Division of Corporation Finance's Sample Letter to China-Based Companies issued by the Staff in December 2021 for the issues to be considered and addressed.**

Response: The Company respectfully acknowledges the Staff's comment and advises the Staff that LanzaTech is not a China-based company. LanzaTech is headquartered in the United States and its executive team sits in Chicago, Illinois with a stake in a Chinese joint venture and some employees located in China. Though the first three plants operated by LanzaTech's partners to commence operations using LanzaTech's technology are located in China, LanzaTech has worked with its partners to enable numerous projects under construction using LanzaTech's process technology in other locations including the United States, Belgium, Canada, Japan and India. Additionally, LanzaTech has projects in various stages of development in the United Kingdom, India, Portugal, the Netherlands, Italy, Sweden and Australia. LanzaTech was founded and headquartered in New Zealand until 2014 when LanzaTech relocated to its current headquarters in Chicago. Accordingly, the Company respectfully advises the Staff that the Company does not believe that the legal and operational risks associated with China-based companies are materially applicable to LanzaTech's business or that such risks are significantly different from risks facing many other U.S.-based companies with partnerships or other operations in China. Because LanzaTech does business in China and has a joint venture and other partners located in China, the Company has revised the disclosure on pages 72-73 of Amendment No. 1 in response to the Staff's comment.

Some of our intellectual property may be subject to federal regulation such as march-in rights..., page 66

- 14. Please revise to identify which of your intellectual property rights is or may be subject to march-in rights connected to grants from U.S. government agencies. Please also provide disclosure to this effect in the Business section, where appropriate.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 77 and 231 of Amendment No. 1.

Risks Related to AMCI and the Business Combination, page 68

- 15. Please highlight the material risks to public warrant holders, if any, arising from the differences between private warrants, LanzaTech Warrants, and public warrants.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 87-88 of Amendment No. 1.

- 16. Your current charter limits the application of the doctrine of corporate opportunity under certain circumstances. Please address this potential conflict of interest in a separate risk factor and indicate whether it impacted your search for an acquisition target.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 86 of Amendment No. 1.

Our warrant agreement designates the courts of the State of New York or the United States District Court for the Southern District..., page 71

- 17. Please revise this risk factor to disclose that there is also a risk that your exclusive forum provision may result in increased costs for investors to bring a claim. Please similarly revise the risk factor on page 82 concerning the exclusive forum provision in LanzaTech's certificate of incorporation.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 105 of Amendment No. 1.

Our stockholders will experience immediate dilution as a consequence of the issuance of New LanzaTech Common Stock as consideration....page 75

18. **Please revise to disclose all possible sources and extent of dilution that shareholders who elect not to redeem their shares may experience in connection with the business combination. Provide disclosure of the impact of each significant source of dilution, including the amount of equity held by founders, convertible securities, including warrants retained by redeeming shareholders, at each of the redemption levels detailed in your sensitivity analysis, including any needed assumptions.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 93 and 94 of Amendment No. 1.

19. **Quantify the value of warrants, based on recent trading prices, that may be retained by redeeming stockholders assuming maximum redemptions and identify any material resulting risks.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 93 and 94 of Amendment No. 1.

Background of the Business Combination, page 92

20. **Please revise to specifically identify the following persons or entities:**

- **each person or entity that composes the AMCI Group (refer to page 92);**
- **the “consultant specializing in blast furnaces and steel off-gases” with whom you had a discussion on October 14, 2021 (refer to page 95)**
- **each of the “various market experts” with whom you held calls to further understand global end-market dynamics for LanzaTech’s products (refer to page 97).**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 2 of Amendment No. 1 to identify each person or entity that composes the group of AMCI Insiders. The Company respectfully informs the Staff that none of the consultant or the other market experts disclosed in the Registration Statement were formally engaged by the Company or LanzaTech to provide advice, none are employed by or are affiliates of either the Company or LanzaTech and none have a direct interest in the Business Combination. The Company does not believe that the identity of these individuals and entities is material to an investment decision. In light of the foregoing, the Company respectfully submits that the Company is not required to provide their identities under Regulation MA or any of the other rules of the Commission.

21. **Please disclose when AMCI engaged both Evercore and Goldman Sachs to act as its capital markets advisors. As it concerns Goldman Sachs, please expand your disclosure to more specifically explain the scope of this agreement, including the role Goldman Sachs played with respect to valuation, analysis and due diligence and the agreement's proposed fee structure. Please also disclose whether Goldman Sachs provided AMCI with a report, opinion or appraisal for the proposed business combination at any time prior to its resignation on May 6, 2022.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 122, 124 and 126-129 of Amendment No. 1.

22. We note that AMCI evaluated “numerous” target business candidates after its IPO and entered into 20 confidentiality agreements with potential target companies. Please explain how you narrowed to these 20 targets and briefly explain why and when each was eliminated as a potential target. Please also include additional disclosure concerning the timeline of your negotiations with the other target company to which AMCI submitted a non-binding letter of intent. Your disclosure in this section should provide shareholders with an understanding of why other target companies were not ultimately chosen as business combination partners.

Response: In response to the Staff’s comment, the Company has revised the disclosure on pages 116 and 119 of Amendment No. 1.

23. In addition to the \$4.6 million payable to Evercore as deferred underwriting compensation, please disclose the total fees that Barclays Capital Inc. and Evercore Group, L.L.C. will receive upon completion of the business combination and any amount that is contingent upon completion of the transaction for serving as financial advisors. Please also disclose, on a firm-by-firm basis, the amount of fees attributable to capital markets advisory services and the amount attributable to placement agent services.

Response: In response to the Staff’s comment, the Company has revised the disclosure on page 122 of Amendment No. 1.

24. When discussing Goldman Sachs’ May 6, 2022 resignation, please describe the services that remained outstanding from Goldman Sachs that would have been required in order to earn the fees that you indicate have been forfeited. For example, if Goldman Sachs would have played a role in the closing of the business combination, please revise to identify the party who will be filling this role. Additionally, please discuss the potential impact on the transaction related to this resignation. This discussion should address the fact that, in its role as capital markets advisor, Goldman Sachs assisted in the creation of the Selected Public Company Analysis (as disclosed on page 103) and the identification of potential PIPE Investors (as disclosed on page 98).

Response: In response to the Staff’s comment, the Company has revised the disclosure on pages 126-129 of Amendment No. 1.

Financial Analysis, page 103

25. We note that the AMCI Board did not seek a third-party valuation and did not receive any valuation report or opinion from a third party in connection with the business combination. Please revise to explain why the AMCI Board determined that it was not necessary to obtain a fairness opinion for the business combination. Additionally, revise to disclose all material factors that the AMCI Board relied upon in agreeing to the current valuation, clarifying the “other things” the Board considered.

Response: In response to the Staff’s comment, the Company has revised the disclosure on pages 44, 96, 97 and 133 of Amendment No. 1.

**26. We note the term of the projections through 2026. Please explain the basis for providing projections beyond year three and clarify if the forecasts reflect more than simple assumptions about growth rates. It should be clear how projected growth rates are sustainable over the selected period of time and why it is reasonable to assume such growth rates.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 136-140 of Amendment No. 1. The Company respectfully acknowledges the Staff's comment and advises the Staff that following a review of LanzaTech's forecasting methodologies, its year to date performance, and a review of opportunities in its pipeline, LanzaTech management revised its financial projection forecast to account for changes in the overall global macroeconomic climate, including geopolitical tensions, supply chain disruptions, increasing inflation, and higher interest rates that have impacted LanzaTech's partners' decision making processes and broader project development cycles over the forecast period. The revised forecast was approved by LanzaTech's Board of Directors on September 7, 2022 and shared with the Company on September 8, 2022. The revised forecast reflects LanzaTech's latest views on its project pipeline, the timing and probability of specific projects advancing through the pipeline, adjustments in the revenue recognition structure of its CarbonSmart business, modifications to the accounting treatment of LanzaJet as a LanzaTech equity method investee, and modifications to its co-development model, which focuses on the utilization of third-party capital from recently established partnerships to invest in projects where LanzaTech takes a more active project development role.

Additionally, the Company advises the Staff that the original and revised forecasts reflect more than simple assumptions about growth rates. The Company respectfully advises the Staff that LanzaTech's business model centers around licensing its technology to partners who own and operate the facilities, the full project development cycle for which can range from 24-36 months depending on the geography, feedstock, and integration of a particular project. The Company notes that LanzaTech utilizes several forecasting methodologies to derive a weighted probability that each of its projects will advance through the project development cycle. LanzaTech's management believes that this sales cycle and pipeline commercialization forecasting methodology allows for reasonable projections through 2026, which is when LanzaTech's management believes that its current pipeline of projects will become fully operational. LanzaTech management expects to continue to add to its pipeline of licensing opportunities, consistent with the large addressable market for its approach, and will continue to apply its probability-weighted conversion assumptions to these additional opportunities. For joint development and contract research, including government grants, LanzaTech has assumed modest growth rates associated with these revenue streams and has assumed that these revenue streams represent a declining percentage of LanzaTech's overall revenues over the projection term.

**27. We have the following comments regarding the assumptions presented in your projected financial information:**

- **Revise to disclose in more detail the material assumptions underlying the projected financial information rather than merely list the factors that could affect the figures presented;**
- **Quantify the underlying operational and market assumptions discussed in the third to last paragraph on page 108 to the extent possible;**
- **Explain how the projected information currently disclosed is representative of your current and expected future joint development agreements, U.S. government R&D contracts, and collaboration agreements;**
- **Explain the relationship between your current and expected installed capacity and how you expect it to result in the increase in recurring revenues over the periods presented.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 136-140 of Amendment No. 1 based on the first and second bullets above. In response to the third bullet above, the Company respectfully acknowledges the Staff's comment and advises the Staff that all signed and contracted engagements are included within the revenue forecasts for joint development agreements, U.S. government research and development contracts, and collaboration agreements. The forecasts assumes growth rates for these types of projects based on historical conversion and expected growth in the availability of such funding. The per project economic assumptions associated with these projects are consistent with LanzaTech's historic and ongoing joint development and contract research agreements. In response to the fourth bullet above, the Company respectfully acknowledges the Staff's comment and advises the Staff that as additional plants come online over the forecast period, LanzaTech's management expects that recurring revenue will represent a growing proportion of its overall revenue mix. LanzaTech's recurring revenue is largely comprised of licensing royalties, typically calculated as a percentage of sales of the relevant product produced by the licensed facility, in addition to recurring sales of microbes and media and software and monitoring services, and will therefore increase as additional capacity is brought online over the forecast period.



28. **We note your statements on this page that investors “are cautioned not to place undue reliance on the prospective financial information” of LanzaTech’s projected financial information and are “cautioned not to rely on the projections in making a decision regarding the Business Combination[.]” Please revise these statements to remove any implication that investors are not entitled to rely on disclosure in your registration statement.**

Response: In response to the Staff’s comment, the Company has revised the disclosure on page 137 of Amendment No. 1.

29. **You disclose that LanzaTech provided AMCI with its internally prepared forecasts for each of the years in the five-year period ending December 31, 2026. Please disclose when these projections were prepared. In this regard, we note your disclosure on page 94 that on September 13, 2021, AMCI had a call with LanzaTech to walk through its financial model and associated projections in detail. Please explain whether or not the projections still reflect management’s views on future performance and describe what consideration the board gave to obtaining updated projections.**

Response: In response to the Staff’s comment, the Company has revised the disclosure on pages 136-140 of Amendment No. 1. LanzaTech first prepared projections that were used in connection with negotiations leading up to the Letter of Intent signed with the Company. The Company and LanzaTech discussed these projections initially on September 13, 2021 as part of the Company’s ongoing due diligence effort. Following the execution of the Letter of Intent, LanzaTech prepared an updated financial forecast on January 6, 2022, to reflect the change in financial period, to incorporate an updated project pipeline, and to reflect updated accounting treatment relating to the transition from IFRS to U.S. GAAP in connection with LanzaTech’s migration from New Zealand to Delaware. This updated financial forecast was the basis of the projections presented in the Registration Statement and served as the basis of the Company Board’s decisions to proceed with entering into the Merger Agreement.

From time to time, LanzaTech assesses its projections to ensure they still reflect managements’ good faith estimates of future performance. Following a review of LanzaTech’s forecasting methodologies, its year to date performance, and a review of opportunities in its pipeline, LanzaTech management revised its financial projection forecast to account for changes in the overall global macroeconomic climate, including geopolitical tensions, supply chain disruptions, increasing inflation, and higher interest rates that have impacted LanzaTech’s partners’ decision making processes and broader project development cycles over the forecast period. The revised forecast was approved by LanzaTech’s Board of Directors on September 7, 2022 and shared with AMCI on September 8, 2022. The revised forecast reflects LanzaTech’s latest views on its project pipeline, the timing and probability of specific projects advancing through the pipeline, adjustments in the revenue recognition structure of its CarbonSmart business, modifications to the accounting treatment of LanzaJet as a LanzaTech equity method investee, and modifications to its co-development model, which focuses on the utilization of third-party capital from recently established partnerships to invest in projects where LanzaTech takes a more active project development role. Into select project opportunities, LanzaTech will continue to directly deploy equity capital in amounts that represent a minority stake in the overall project equity. In light of these revised projections, the Company has revised the disclosure on pages 136-140 of Amendment No. 1.

30. We note your disclosure on page 106 that AMCI relied on numerous estimates and certain assumptions, including certain of those listed on this page. Please disclose all the material estimates and assumptions relied upon by the LanzaTech management team. In this regard, please clarify what “other assumptions” were “impacted by the reality that research, product development, project timelines, operational execution, and downstream product demand are difficult to predict and will be impacted by numerous circumstances that are out of LanzaTech’s control.” Similarly, as it concerns your disclosure on page 108, revise this section to disclose all material projections rather than limiting the information to the “key elements” thereof.

Response: In response to the Staff’s comment, the Company has revised the disclosure on pages 136-140 of Amendment No. 1. No additional material estimates, assumptions or projections were relied upon by LanzaTech’s management team.

Certain Engagements in Connection with the Business Combination and Related Transactions, page 112

31. Please revise your statement that Evercore was engaged by AMCI to act as “sole financial advisor and capital markets advisor” to AMCI in connection with the business combination, as this does not appear consistent with the fact that AMCI also retained Goldman Sachs to act as a capital markets advisor at one point in time.

Response: In response to the Staff’s comment, the Company has revised the disclosure on page 144 of Amendment No. 1.

Information About LanzaTech  
Overview, page 179

32. Please revise the Overview section on page 179 to clarify whether the company’s current commercial operations are all located in China. In this regard, we that you do not discuss the carbon capture and transformation facility at ArcelorMittal’s steel mill in Ghent, Belgium in the Overview. Please clarify what role such facility plays in the company’s operations. Please also disclose where the “numerous projects in construction, under development, and in the pipeline” are located and provide details about each, to the extent material.

Response: In response to the Staff’s comment, the Company has revised the disclosure on page 216 of Amendment No. 1. The facility being built by ArcelorMittal at its steel mill in Ghent, Belgium is currently under construction and is not material to the Company’s current commercial operations. Likewise, the other projects in construction, under development and in the pipeline are not material to LanzaTech’s current commercial operations. The other five projects currently in construction are the following: the LanzaJet Freedom Pines facility in Georgia, United States; the Shougang ferroalloy project in China; the Sekisui gasified Municipal Solid Waste facility in Japan; the Suncor gasified biomass project in Canada; and the IndianOil Corporation refinery off gas facility in India. The projects under engineering development are the following: a gasified biomass facility in Portugal; a sustainable aviation fuel project in the Netherlands; the NextChem gasified municipal solid waste facility in Italy; a sustainable aviation fuel project in the United Kingdom; the Woodside biogas facility in Australia; the SED gasified biomass facility in India; the Vattenfall CO<sub>2</sub> + green H<sub>2</sub> project in Sweden; and the MRPL gasified biomass facility in India.

33. **We note your comparison of your technology platform to the brewing process. Please revise this statement to note the novel nature of your technology platform, which you disclose on page 55, and to specify the nature of your end products, which you disclose on pages 188 to 192.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 216 of Amendment No. 1.

Intellectual Property, page 192

34. **We note your disclosure that your intellectual property portfolio is comprised of 1,115 patents and over 470 pending patent applications across 119 patent families across your overall technology platform. For each material patent or patent family, please revise your disclosure to include the specific products or technologies to which the patents relate, the type of patent protection obtained (composition of matter, use or process), the jurisdiction of the patents and the expiration year. If any of these patents are in-licensed, please specify. In this regard it may be useful to provide tabular disclosure in addition to the narrative.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 230 of Amendment No. 1. LanzaTech is a technology company which protects its intellectual property across an entire platform through a combination of trade secrets, confidential information, patents, trademarks, copyrights, nondisclosure agreements, material transfer agreements, employee agreements, and strong intellectual property and confidentiality clauses in collaboration and other agreements. LanzaTech does not consider any individual patent, patent family or trademark to be material to its overall business.

Key Collaboration Agreements, page 193

35. **Please revise the description of the following agreements to disclose: (1) the amount paid or received to date from upfront payments, milestone payments, and/or royalties; (2) the aggregate potential milestone payments, and; (3) royalty rates (to a range that does not exceed ten percentage points):**

- **License Agreement with Battelle Memorial Institute;**
- **License Agreement with LanzaJet;**
- **Shougang Joint Venture License Agreement;**
- **Agreements with Sekisui Chemical Co., Ltd;**
- **Letter Agreement with IndianOil;**
- **Suncor License Agreement.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 231-240 of Amendment No. 1. The Company respectfully acknowledges the Staff's comment and advises the Staff that the descriptions of each of the abovementioned agreements have been updated to include these terms for each agreement. However, several of these agreements do not include these provisions: LanzaTech's license agreement with LanzaJet does not include its own consideration terms, instead incorporating the terms from LanzaTech's license agreement with Battelle Memorial Institute; the agreements with Sekisui Chemical Co., Ltd do not include payment terms; and none of the abovementioned agreements provide for milestone payments.

Shougang LanzaTech Joint Venture, page 195

- 36. Please revise your disclosure to provide a diagram of Beijing Shougang LanzaTech Technology Co., Ltd.'s corporate structure and identify the persons or entities that own the equity in each depicted entity.**

Response: The Company respectfully acknowledges the Staff's comment and has supplementally provided to the Staff a diagram of the corporate structure of Beijing Shougang LanzaTech Technology Co., Ltd. identifying the persons or entities that own equity in each depicted entity and including the percentage of the equity of each entity held by each of these parties. The Company respectfully advises the Staff that because LanzaTech only holds approximately 9.3% of the equity of Beijing Shougang LanzaTech Technology Co., Ltd. through its subsidiary, LanzaTech Hong Kong Limited, and such ownership percentage is disclosed in the Registration Statement, the corporate structure and identities of the other shareholders in Beijing Shougang LanzaTech Technology Co., Ltd., none of which are affiliates of LanzaTech, are not material to LanzaTech's business.

Management's Discussion and Analysis of Financial Condition and Results of Operations of LanzaTech, page 202

- 37. We note your disclosure on page 207 that you hold interests in certain VIEs. Please revise your disclosure to identify whether you have any contractual arrangements with VIEs based in China and whether these VIEs are connected to the letter agreement with Sinopec Capital Co, Ltd. and/or the Shougang Joint Venture.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 249 of Amendment No. 1.

Management's Discussion and Analysis of Financial Condition and Results of Operations of LanzaTech Results of Operations, Comparisons of the Years Ended December 31, 2021 and 2020, Revenues, page 208

- 38. We reference the disclosure that the net impact of joint development agreements increased revenues by \$4.8 million due to new collaborative arrangements and continued collaborations with existing customers. Please revise to quantify the increase in revenues related to new collaborative arrangements versus those with existing customers.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 252 of Amendment No. 1. The Company respectfully acknowledges the Staff's comment and advises the Staff that during the year ended December 31, 2021, the net impact of joint development agreements increased LanzaTech's revenues by \$4.8 million due to \$1.5 million in collaborative arrangements from new customers and \$3.3 million in continued collaborations with existing customers.

Beneficial Ownership of Securities, page 239

- 39. Please identify in footnotes to the table all natural persons who have voting and/or investment power over the shares held by Guardians of New Zealand Superannuation, Sinopec Capital, Co. Ltd, and Novo Holdings A/S.**

Response: In response to the Staff's comment, the Company has revised the disclosure on page 288 of Amendment No. 1.

Certain Relationships and Related Party Transactions, page 256

- 40. Please identify the Anchor Investors and expand your disclosure to specifically describe any related party affiliation. To the extent any of your sponsors, directors, officers or their affiliates helped facilitate agreements with the Anchor Investors, please disclose the specific role they played in doing so in the “Background of the Business Combination” section on page 92.**

Response: In response to the Staff’s comment, the Company has revised the disclosure on pages 287 and 306 of Amendment No. 1 to disclose that none of the Anchor Investors are related persons as such term is defined in Item 404(a) of Regulation SK and also to identify those Anchor Investors who are holders of 5% or more of the Company’s securities. The Company respectfully submits that the omission of the identities of other Anchor Investors is neither material nor required under Commission rules and regulations. In this regard, the Company advises the Staff that, to its knowledge, none of the Anchor Investors will own more than 5% of New LanzaTech upon the Closing. Further, the Company respectfully advises the Staff that Evercore, in its capacity as underwriter of the Company’s IPO, helped to facilitate the agreements with such investors and the Company has revised the disclosure on page 306 of Amendment No. 1 accordingly.

Related Stockholder Agreements, page 259

- 41. Please file the LanzaTech Investor Rights Agreement, Amended and Restated Right of First Refusal and Co-Sale Agreement, and Amended and Restated Voting Agreement as exhibits to the registration statement. Alternatively, provide an analysis supporting your belief that such filing is not required. See Item 601 of Regulation S-K.**

Response: The Company respectfully acknowledges the Staff’s comment and advises the Staff that it considered the provisions of Regulation S-K Item 601 in evaluating whether the filing of the abovementioned agreements would be appropriate. The Company believes that each of the agreements are not material to investors, as these agreements will terminate upon the closing of the Business Combination and include no material post-closing obligations. As such, the filing of these agreements would not provide prospective investors with meaningful additional insight into LanzaTech’s business, risks or prospects. In light of the foregoing, the Company respectfully submits that these agreements are not required to be filed as exhibits to the Registration Statement.

Exhibits and Financial Statement Schedules, page II-2

- 42. You state in the footnotes to the Exhibit Index on page II-4 that you have omitted certain exhibits and schedules in accordance with Item 601(a)(5) of Regulation SK. However, it appears that you have instead redacted information from certain of these exhibits in accordance with Regulation S-K Items 601(b)(2)(ii) and/or 601(b)(10)(iv). Please revise to accurately denote which exhibits include redacted information and include a prominent statement on the first page of each redacted exhibit that certain identified information has been excluded from the exhibit because it is both not material and is the type that the registrant treats as private or confidential.**

Response: In response to the Staff’s comment, the Company has revised the description on pages II-2 - II-5 of Amendment No. 1 and noted on the first page of each redacted exhibit that certain identified information has been excluded from the exhibit because it is both not material and is the type that the registrant treats as private or confidential.

General

43. **Please tell us whether Goldman Sachs was involved in the preparation of any disclosure that is included in the registration statement, including any analysis underlying the disclosure in the registration statement, or material underlying disclosure in the registration statement, including but not limited to the disclosure beginning on page 103 regarding the financial analyses prepared by AMCI management and/or the LanzaTech Projected Financial Information beginning on page 105. If so, clarify Goldman Sachs' involvement, whether it has retracted any work product associated with the transaction, and also include a risk factor describing its role in connection with the preparation of the registration statement and the valuation of LanzaTech and that it disclaims any liability in connection with such disclosure included in the registration statement.**

Response: The Company respectfully informs the Staff that none of Goldman Sachs, Barclays or Evercore prepared or provided any of the disclosure in the proxy statement/prospectus or any other materials or work product. Prior to their respective resignations, Barclays assisted LanzaTech's management and board of directors by providing general financial and capital market advisory services, including assisting in comparable and market analysis and providing commentary thereon, and each of Goldman Sachs, Barclays and Evercore assisted AMCI management in selecting companies to include in the Selected Public Company Analysis discussed on page 133 of the Amendment No. 1, identified potential PIPE Investors, and assisted AMCI in preparing the PIPE presentation provided to such potential PIPE Investors. Evercore also assisted AMCI management with organizing and providing industry and market data and other market information, as well as a financial and benchmarking analysis. None of Goldman Sachs, Barclays or Evercore were responsible for the preparation of any materials reviewed by AMCI's board of directors or management. Further, none of Goldman Sachs, Barclays or Evercore has retracted any work product associated with the transaction, or informed AMCI or LanzaTech or, to the knowledge of AMCI or LanzaTech, the PIPE Investors, that any of them is in disagreement with the information previously provided to AMCI or LanzaTech. The Company has revised the disclosure on pages 81-86, 122, 124-129 and 135-136 of Amendment No. 1 in response to the Staff's comment.

44. **If Goldman Sachs advised AMCI on the business combination and related transactions, please add a risk factor that the board of directors of AMCI engaged with an advisor who assisted in their consideration of the transaction who has subsequently withdrawn, and explain whether the board has undertaken any additional procedures in reviewing the recommendation in light of the withdrawal of its advisor on whom it relied. If not, the AMCI board should disclose that its advisor resigned and it opted not to revisit the projections and other financial information on which it advised.**

Response: The Company respectfully advises the Staff that none of Goldman Sachs, Barclays or Evercore advised AMCI on the Business Combination or related transactions. Neither Goldman Sachs nor Barclays prepared a valuation analysis of LanzaTech in connection with the Business Combination, nor were either of them responsible for the LanzaTech projected financial information included in the Registration Statement. As indicated in the Company's response to Comment No. 43, in its role as financial advisor to AMCI, Evercore assisted AMCI management with organizing and providing industry and market data and other relevant third-party market information as well as a financial and valuation benchmarking analysis, which included a sensitivity analysis based on key drivers to LanzaTech's business and a sum-of-the-parts analysis regarding LanzaTech's equity investment in LanzaJet. However, as indicated in the Company's response to Comment No. 43, none of Goldman Sachs, Barclays or Evercore were responsible for the preparation of any materials reviewed by AMCI's board of directors or management as part of their consideration of the transaction.

45. **Please disclose whether Goldman Sachs assisted in the preparation or review of any materials reviewed by the LanzaTech board of directors or management as part of its services to AMCI and whether Goldman Sachs has withdrawn its association with those materials and notified LanzaTech of such disassociation.**

Response: The Company respectfully informs the Staff that Goldman Sachs, Barclays and Evercore did assist in the preparation of the PIPE presentation that was provided to PIPE Investors as part of their services to AMCI. The PIPE presentation was reviewed by the LanzaTech board of directors and management prior to its use. Goldman Sachs, Barclays and Evercore have not withdrawn their association with those materials specifically and have not notified LanzaTech of such disassociation. Furthermore, as the Company has revised disclosure on pages 127-129 of Amendment No. 1, the Company has ongoing obligations pursuant to the engagement letter that will survive termination of engagement.

46. **Please disclose any fees paid or due to Goldman Sachs in connection with its roles as a placement agent and/or a capital markets advisor to AMCI.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 99 and 124-129 of Amendment No. 1.

47. **We note your disclosure on page 112 that Goldman Sachs will not be receiving any compensation for serving as a placement agent in the Private Placement and as a capital markets advisor to AMCI. Please add a risk factor that discloses that such services have already been rendered, yet Goldman Sachs is waiving such fees and disclaiming responsibility for the Form S-4 registration statement. Clarify the unusual nature of any such fee waiver and the impact of it on the evaluation of the business combination.**

Response: The Company respectfully informs the Staff that Goldman Sachs, Barclays and Evercore had not substantially rendered the services for which they were engaged by AMCI at the time of their resignation. Instead, had Goldman Sachs, Barclays and Evercore not resigned from their roles as a capital markets advisors to AMCI and placement agents in the Private Placement, Goldman Sachs, Evercore and Barclays, who have also resigned from their roles as co-placement agents, would have remained responsible for continued outreach to various potential PIPE Investors to help secure the Proposed Additional Financing and, unless waived, reach the Minimum Closing Cash Condition that is required to consummate the Business Combination. In response to the Staff's comment, the Company has revised the disclosure on pages 85 and 99 of Amendment No. 1.

48. **Disclose whether Goldman Sachs provided you with any reasons for the fee waiver. If there was no dialogue and you did not seek out the reasons why Goldman Sachs was waiving deferred fees, despite already completing their services, please indicate so in your registration statement. Further, revise the risk factor disclosure to explicitly clarify that Goldman Sachs has performed all of its obligations to obtain this fee and therefore is gratuitously waiving the right to be compensated.**

Response: The Company respectfully advises the Staff that Goldman Sachs, Barclays and Evercore did not provide any reasons for the fee waiver. As indicated in the Company's response to Comment No. 47, the Company respectfully informs the Staff that Goldman Sachs, Barclays and Evercore had not completed their services when they advised the Company of their resignation. In response to the Staff's comment, the Company has revised the disclosure on pages 85-86, 122, 124 and 126 of Amendment No. 1.

**49. Please add a risk factor disclosing the following:**

- **When a financial institution is named in a proxy statement/prospectus such as this, it typically presumes a level of due diligence and independent analysis on the part of such financial institution, and it also typically means that a financial institution has done a level of due diligence ordinarily associated with a professional engagement.**
- **By withdrawing, Goldman Sachs is indicating that it does not want to be associated with the disclosure or the underlying business analysis related to the transaction. Accordingly, your disclosure should caution investors that they should not place any reliance on the fact that Goldman Sachs has been previously involved with this transaction.**

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 81-86 and 99 of Amendment No. 1.

**50. Please provide us with a letter from Goldman Sachs stating whether it agrees with the statements made in your prospectus related to their resignation and, if not, stating the respects in which it does not agree. Please revise your disclosure accordingly to reflect that you have discussed the disclosure with Goldman Sachs and it either agrees or does not agree with the conclusions and the risks associated with such outcome. If Goldman Sachs does not respond, please revise your disclosure to indicate you have asked and not received a response and disclose the risks to investors. Additionally, please indicate that you will not speculate about the reasons that Goldman Sachs withdrew from its role as placement agent and capital markets advisor and forfeited its fees, if applicable. The disclosure should clarify whether Goldman Sachs performed substantially all the work to earn these fees.**

Response: The Company respectfully informs the Staff that AMCI requested a letter from each of Goldman Sachs, Barclays and Evercore stating whether it agrees with the statements made in the proxy statement/prospectus related to its respective resignation and, if not, stating the respects in which it does not agree. Following delivery of the proxy statement/prospectus to each of Goldman Sachs, Barclays and Evercore, they have either not responded or have responded that they do not intend to review the disclosure. As requested by the Staff, the Company has revised the disclosure on pages 81-86 of Amendment No. 1 to state that Goldman Sachs, Barclays and Evercore either did not respond or declined to review the proxy statement/prospectus, that none of Goldman Sachs, Barclays or Evercore provided a letter to AMCI regarding whether it agreed or did not agree with the statements included in the proxy statement/prospectus and that, accordingly, no inference should be drawn that any of Goldman Sachs, Barclays or Evercore agrees with the disclosure regarding its respective resignation. Further, in response to the Staff's comment, the Company undertakes that it will not speculate in the Registration Statement (or any amendments thereto) or make any public statements about the reasons why any of Goldman Sachs, Barclays or Evercore withdrew from its respective advisory role. As indicated in the Company's response to Comment No. 47, the Company respectfully informs the Staff that none of Goldman Sachs, Barclays or Evercore had completed its respective services when it advised the Company of its resignation. Furthermore, in response to the Staff's comment, the Company has revised the disclosure on pages 81-86 and 99 of Amendment No. 1.

**51. Please tell us whether you are aware of any disagreements with Goldman Sachs regarding disclosure in the financial statements in the Form S-4 registration statement.**

Response: The Company respectfully advises the Staff that it is not aware of any disagreements with Goldman Sachs, Barclays and Evercore regarding the disclosure in the financial statements included in the Registration Statement.



**52. In light of the resignation of Goldman Sachs, please describe the extent to which the availability of financing that is currently contemplated could be curtailed and how you would expect to manage such a change.**

Response: The Company respectfully advises the Staff that it does not believe that the resignation of Goldman Sachs, Barclays and Evercore will impact the availability of financing. The Company does not expect to hire another placement agent in connection with the Business Combination. The Company has revised the disclosure on pages 126-129 of Amendment No. 1 accordingly.

**53. Please provide us with the engagement letter between Goldman Sachs and AMCI. Please disclose any ongoing obligations of AMCI pursuant to the engagement letter that will survive the termination of the engagement, such as indemnification provisions, and discuss the impact of those obligations on AMCI in the registration statement.**

Response: In response to the Staff's comment, the Company has submitted the engagement letter between AMCI and each of Goldman Sachs, Barclays and Evercore along with their amendments, to the Staff via Kiteworks secure file transfer system. Furthermore, in response to the Staff's comment, the Company has revised the disclosure on pages 127-129 of Amendment No. 1 to disclose the ongoing obligations of the Company pursuant to the engagement letter that will survive termination of the engagement and to discuss the impact of those obligations on the Company.

**54. Please provide us with any correspondence between Goldman Sachs and AMCI relating to Goldman Sachs' resignation.**

Response: The Company respectfully informs the Staff that there was no correspondence between any of Goldman Sachs, Barclays or Evercore and the Company relating to any of their resignations other than their respective notices and formal letters.

**55. We note that LanzaTech's website continues to list Goldman Sachs as an advisor on the transaction under the Investor Relations tab. Please explain.**

Response: The Company respectfully acknowledges the Staff's comment and advises the Staff that LanzaTech's website has been updated such that the Investor Relations tab does not immediately direct visitors to the press release announcing the signing of the transaction, which listed Goldman Sachs, Barclays and Evercore as advisors.

\* \* \*

United States Securities and Exchange Commission  
October 11, 2022

**WHITE & CASE**

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