



DIVISION OF
CORPORATION FINANCE

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

June 14, 2023

Scott Honour
Chairman of the Board
Perception Capital Corp. II
315 Lake Street East, Suite 301
Wayzata, MN 55391

Re: Perception Capital Corp. II
Amendment No 2. to Preliminary Proxy Statement on Schedule 14A
Filed May 26, 2023
File No. 001-40976

Dear Scott Honour:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response and any amendment you may file in response to these comments, we may have additional comments.

Amendment No. 2 to the Preliminary Proxy Filed May 26, 2023

Certain Unaudited Projected Financial Information, page 2

1. We note your response to comment 12. To help investors better understand the material assumptions used to determine the projected financial information presented, please provide additional insight as to when you expect to start achieving each of the three revenue streams.

Unaudited Pro Forma Condensed Combined Financial Information, page 72

2. We note your response to comment 2. In a similar manner to your response, please expand your disclosures to explain the terms of the Bridge Loan specifically as it relates to mandatory prepayments.

3. We note in your disclosures on page F-68 that the Arosa loan agreement also resulted in Arosa transferring founder units to Spectaire which were then distributed to shareholders. Please disclose how these units and the distributions were accounted for and also what consideration was given to reflecting this part of the transaction in the pro forma financial information.

Background to the Business Combination, page 184

4. We note your revisions in response to our prior comment 8. We note that PCCT management took into account the “fundamentals of the industrial technology sector” and “execution risks inherent within scaling [Spectaire’s] technologies.” Please revise to briefly summarize the fundamentals and inherent risks that PCCT management took into account, including PCCT’s position on those matters.
5. We note that the initial LOI submitted by PCCT on November 30, 2022 already contained the \$125 million pre-money valuation and the 7.5 million earnout shares and that the amount and structure of the earn-out was determined through through the process of negotiation described on page 189. Please disclose the dates that these discussions and negotiations took place, including when Spectaire sought the \$300 million valuation and when PCCT proposed the earnout provisions.
6. We note your revisions and response to our prior comment 11. Please revise your disclosure related to the January 10, 2023 Board Meeting to disclose the "material findings from prior informational business due diligence discussions with Spectaire management" that were presented to the PCCT Board. We refer to your disclosure that the "Results of Due Diligence Conducted by PCCT" were a supporting factor that the Board considered in its decision to enter the business combination.

U.S. Federal Income Tax Considerations, page 227

7. We note your response to comment 14. Please provide disclosure as to the tax consequences of the merger in this section and file a tax opinion as an exhibit to the registration statement as we view the tax consequences to be material to the transaction and your disclosure contains representations as to the tax-free nature of the transaction. In this regard, we note that if the tax consequences are material to the transaction as a whole, which we believe to be the case with respect to the merger, then disclosure and an appropriate tax opinion are required with respect to the transaction as a whole. If there is uncertainty regarding the tax treatment of the merger, counsel may issue a "should" or "more likely than not" opinion to make clear that the opinion is subject to a degree of uncertainty, and explain why it cannot give a firm opinion.

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Note 1. Organization and Business Operations, page F-56

8. We note your response to comment 15. Please help us better understand how you determined that MicroMS should be considered the accounting acquirer pursuant to ASC 805. Specifically please address the following:
- You determined that Spectaire was a Newco that lacked substance from inception in September 2022 to December 13, 2022 and had limited pre-combination activities. Please tell us what specific activities this entity was engaged in during this period, including whether the entity was focused on raising capital, identifying and promoting acquisition targets, and negotiating any other types of transactions.
 - You disclose that the board composition and management is mixed between former MicroMS and Spectaire executives. Please tell us the specific composition of both the board and management, including how many members of the board are representatives of MicroMS as well as representatives of Spectaire.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Nudrat Salik at 202-551-3692 or Al Pavot at 202-551-3738 if you have questions regarding comments on the financial statements and related matters. Please contact Jordan Nimitz at 202-551-5381 or Jane Park at 202-551-7439 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Industrial Applications and
Services

cc: Michael Mies, Esq.