



DIVISION OF  
CORPORATION FINANCE

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

September 6, 2023

Rick Gaenzle  
Chief Executive Officer  
Perception Capital Corp. II  
315 Lake Street East, Suite 301  
Wayzata, MN 55391

**Re: Perception Capital Corp. II**  
**Amendment No. 2 to Registration Statement on Form F-4**  
**Filed August 24, 2023**  
**File No. 333-272880**

Dear Rick Gaenzle:

We have reviewed your amended registration statement 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 this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply 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 these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our August 10, 2023 letter.

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

Summary

Certain Engagements in Connection with the Business Combination and Related Transactions, page 11

1. We note your response to comment 1 and reissue the comment in part. Please disclose how this waiver was obtained and why the waiver was agreed to.

Rick Gaenzle  
Perception Capital Corp. II  
September 6, 2023  
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Risk Factors

Moelis and Nomura, two of the IPO Underwriters, have gratuitously waived their right to deferred payment for services rendered in connection, page 65

2. We note your response to comment 4 and reissue the comment in part. Clarify the impact of such a fee waiver on the evaluation of the business combination.

Proposal No. 3 - The Organizational Documents Proposal, page 107

3. We note your response to comment 8 and your revised disclosure throughout the prospectus, including here, where you state that "[t]he Proposed Organizational documents authorize 620,000,000 shares, consisting of 600,000,000 shares of NewCo Common Stock and 20,000,000 shares of NewCo Preferred Stock." We note, however, that on page F-1 of Annex F, which is the Form of Certificate of Incorporation of Spectaire Holdings Inc. to become effective upon the completion of the Domestication, the number of shares to be authorized remains blank. Please revise the Form of Certificate of Incorporation of Spectaire Holdings Inc. to also disclose the number of shares of NewCo Common Stock and NewCo Preferred Stock that will be authorized.

U.S. Federal Income Tax Considerations to Holders of PCCT Class A Ordinary Shares and Public Warrants, page 232

4. We note your response to comment 6 and reissue in part. Please also add risk factor and/or other appropriate disclosure setting forth the risks of uncertain tax treatment to investors, including with respect to U.S. holders of PCCT Class A Ordinary Shares exercising their redemption rights and with respect to whether the Merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code, both of which appear to be subject to uncertainty.

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 Jessica Ansart at 202-551-4511 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.