



DIVISION OF
CORPORATION FINANCE

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

June 13, 2022

Bruce M. Rodgers
Chief Executive Officer
LMF Acquisition Opportunities Inc
1200 W. Platt St., Suite 100
Tampa, Florida 33606

Re: LMF Acquisition Opportunities Inc
Registration Statement on Form S-4
Filed May 16, 2022
File No. 333-264993

Dear Mr. Rodgers:

We have reviewed your 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.

Registration Statement on Form S-4

Cover Page

1. Please revise the cover page to disclose the expected ownership percentages in the combined company of LMF Acquisition Opportunity's public stockholders, the Sponsor and SeaStar Medical's existing stockholders if the business combination is approved and consummated with the maximum amount of redemptions by LMF Acquisition Opportunity's Class A common stock by the public stockholders.

Questions and Answers About the Proposals, page 5

2. Please revise your disclosure here or in the summary, as well as the risk factors section, to disclose the material risks to unaffiliated investors presented by taking SeaStar Medical public through a merger rather than an underwritten offering. These risks could

include the absence of due diligence conducted by an underwriter that would be subject to liability for any material misstatements or omissions in a registration statement.

3. We note the disclosure on pages 86 and 95 regarding Maxim's roles advising both parties to the transaction. Revise the summary to highlight Maxim's role working for both parties up to the time the merger agreement was signed and its potential conflicts of interest. Quantify the total fees it will receive from both parties related to this transaction and related transactions, including LMAO's IPO. Quantify which portion(s) of those fees are contingent upon completion of the business combination. In addition, revise to disclose what consideration LMAO's Board gave to Maxim's potential conflicts of interest and to Maxim's involvement in creating SeaStar's financial projections when making its fairness determination.

Do any of LMAO's directors or officers have interests that may conflict with my interests?, page 8

4. We note the disclosure of the Sponsor's investment in founder shares and warrants in the risk factor on page 60. Revise here to highlight and quantify the aggregate dollar amount and describe the nature of what the sponsor and its affiliates have at risk that depends on completion of a business combination. Include the current value of securities held, loans extended, fees due, and out-of-pocket expenses for which the sponsor and its affiliates are awaiting reimbursement. Provide similar disclosure for the company's officers and directors, if material.
5. Please revise to highlight that the sponsor and its affiliates can earn a positive rate of return on their investment, even if other SPAC shareholders experience a negative rate of return in the post-business combination company.
6. Please highlight the risk that the sponsor will benefit from the completion of a business combination and may be incentivized to complete an acquisition of a less favorable target company or on terms less favorable to shareholders rather than liquidate.

SeaStar Medical, Inc., page 15

7. We note your disclosure in this section and elsewhere throughout your registration statement that you are currently "finalizing the design of a pivotal trial for adult patients with AKI on CRRT. " Please revise the disclosure regarding this and any "pivotal" trials to make it clear that even if you receive positive data from this trial, the U.S. Food and Drug Administration (FDA) or other regulators may require you to conduct additional trial or not agree with your trial design.
8. Revise this section to briefly address the U.S. government's march-in rights and to which of your potential products they do or may apply, and highlight the march-in rights in the summary risk factors on page 26. Revise the risk factor on page 53 and SeaStar's intellectual property disclosure to address which of SeaStar's potential products are or may be subject to march-in rights.

Risks Related to SeaStar Medical's Financial Condition

Industry data, projections and estimates relied upon by SeaStar Medical are inherently uncertain..., page 46

9. It is not appropriate to directly or indirectly disclaim liability for statements in the registration statement. Eliminate this risk factor or otherwise revise the heading to convey a risk that corresponds to the disclosure in the underlying paragraph and does not attempt to disclaim liability for your disclosure obligations. Any revised risk factor should clarify that you are responsible for all disclosure in the prospectus.

The Merger Agreement, page 69

10. On page 70, revise the discussion of the merger agreement to disclose all material terms, including the material representations and warranties of the respective parties.

Background of the Business Combination, page 83

11. Please revise this section to provide greater detail as to the evolution of the background of this transaction, including the criteria used to identify the first 150 potential acquisition targets, how they were narrowed to 117 and additional information regarding how they were further narrowed to 86 and then ten candidates. We note that SeaStar Medical is the sole healthcare company among the ten final acquisition candidates.
12. Revise the background of the transaction, in particular on pages 86-87, provide greater detail as to the background of the transaction, including the material issues discussed and key negotiated terms. The disclosure should provide shareholders with an understanding of how, when, and why the material terms of your proposed transaction evolved and why this transaction is being recommended as opposed to any alternatives, in particular those that remained under consideration at the same time SeaStar Medical was being vetted, which appears to include Companies F, G, H and I. In your revised disclosure, please ensure that you address the following:
 - the material terms for any proposals and subsequent proposals and counter offers;
 - negotiation of the transaction documents and the parties involved, including additional details regarding negotiating the final terms of the merger agreement, on page 88;
 - valuations; and
 - at what point other strategic alternatives were eliminated from consideration.In doing so, identify what work Maxim was doing for LMAO, SeaStar Medical, or any party, up to and including the time Maxim's formal engagement with LMAO ceased, at the time the merger agreement was signed. On page 86, it states "Maxim . . . had served as LMAO's investment banker for its target search process," but there is no disclosure regarding what Maxim did in that process in the background discussion on pages 84-86.

13. Revise this section to clarify who acted on behalf of LMAO in each of the instances outlined in this section. To the extent the actions were undertaken by representatives from Maxim, LMAO's then-financial advisor, or other third parties, revise to clarify. Clarify if any of the other candidates, particularly in the final 10 potential acquisition targets, were clients of Maxim.
14. On page 88 you disclose that LMAO engaged "Skyway Capital Markets, LLC . . . to specifically review SeaStar Medical's financial models and projections and to provide valuation and financial advice to the Board." Clarify on page 90 if it was Skyway's "financial analysis of SeaStar Medical" on which the Board based, in part, their decision. Whatever the source, revise to provide the comparable companies analysis and any other material financial analyses on which the Board relied in reaching its determination that SeaStar Medical had a "pre-money valuation of approximately \$85 million."

LMAO's Board's Reasons for Approval of the Business Combination, page 89

15. Disclose what consideration the LMAO Board gave to the fact that SeaStar Medical is not within the financial services industry and does not align with several of the criteria for identifying an acquisition target outlined in the LMF Acquisition Registration Statement on Form S-1. In addition, please update your description of LMAO in the "Summary of the Proxy Statement" to disclose that LMAO initially focused on transactions with companies and/or assets within the financial services industry.

Material U.S. Federal Income Tax Consequences

Certain Material U.S. Federal Income Tax Consequences of Exercising Redemption Rights, page 124

16. Please have counsel provide an opinion concerning the consequences to U.S. holders of exercising their redemption rights. For additional guidance concerning assumptions and opinions subject to uncertainty, refer to Staff Legal Bulletin No. 19. Revise the heading of this section to eliminate the term "certain," and revise to clarify that you have described all the material consequences.

SeaStar Medical's Business, page 137

17. In the first full paragraph on page 138, revise your timeframes for expected completion of your HDE request to instead disclose when you expect to submit the request to the FDA. We note the current disclosure is that you intend to complete your submission of the HDE request in the first half of 2022 and it is now June 2022. Also, we note the statement, "we expect to obtain regulatory approval of our SCD product candidate for pediatric patients in the first quarter of 2023." You should not suggest or imply that this or any product will be approved by the FDA. Please revise your disclosure here and any similar statements throughout the prospectus accordingly.

18. Please revise your graphics throughout your registration statement as applicable to ensure that the text is legible. For example, the graphic on page 141 is not sufficiently clear.
19. As SeaStar Medical is a medical device company, revise to eliminate the pipeline table on page 144, which has the appearance of a drug product candidate pipeline table. You may convey the status of your potential products in the narrative disclosure.

Clinical Studies, page 144

20. Revise the information for each of the studies in this section to provide additional detail. For example, expand the disclosure of each to explain:
 - Who performed the study;
 - Key inclusion criteria of the patients enrolled;
 - End points for safety and efficacy;
 - Length of the study and any follow-up;
 - Whether any serious adverse events occurred related to your SCD therapy device;
 - Where you address a "target population," such as in the first paragraph on page 147, describe the target population.

In addition, where you make statements characterizing your results, explain those statements. For example, on page 114 where you state that your "SCD treatment significantly reduced all-cause in-hospital mortality," explain what you mean by "significantly reduced" and how that was determined to be causally related to SCD treatment based on a 9-person study. On page 147, where you are designing the pilot study to determine if SCD therapy will "*improve* cardiac and renal function," explain by what parameters will that improvement be judged. Finally, please note that safety and efficacy are determinations that are solely within the authority of the U.S. Food and Drug Administration (FDA) or similar foreign regulators. When revising to address safety and efficacy aspects of the studies, you may present clinical trial end points and objective data resulting from the studies without concluding efficacy and you may state that the therapy has been well tolerated, if accurate.

Intellectual Property, page 148

21. Please revise your intellectual property disclosure to clearly describe on an individual or patent family basis the type of patent protection granted for each product, the expiration year of each patent held, and the jurisdiction of each patent. Clarify how the SCD Technology patents in the table relate to the narrative discussion and whether the "Other Technology" in your table relates to the three additional patent families discussed at the bottom of page 149. Please clearly distinguish between owned patents and patents in-licensed from third parties. You state the University of Michigan patents are "co-owned;" however, you disclose you have a license. It appears from the agreements on file as exhibits that the University owns the technology and you have been granted a license. Please clarify.

22. Please update your description of the University of Michigan License to disclose:
- each party's rights and obligations under the agreement;
 - the aggregate amounts paid to date;
 - whether the agreement contemplates royalty payments; and
 - expiration/termination provisions.
- For the royalty rate, please quantify the royalty rate or provide a reasonable range not exceeding 10 percentage points, and disclose when the royalty provisions expire.

Security Ownership of Certain Beneficial Owners and Management, page 213

23. Please identify the natural person or persons who directly or indirectly exercise sole or shared voting and/or dispositive power with respect to the common stock held by Karpus Investment Management, Saba Capital Management, L.P., and Hudson Bay Capital Management L.P. Refer to Item 403 of Regulation S-K.

Exhibits

24. We note your intention to file a form of preliminary proxy card as exhibit 10.8. Please file a form of proxy marked "preliminary" with your next amendment.

General

25. Please revise your disclosure to disclose all possible sources and extent of dilution that LMAO stockholders 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.
26. It appears that the deferred underwriting fees from LMAO's initial public offering remain constant and are not adjusted based on redemptions. Revise your disclosure to disclose the effective underwriting fee on a percentage basis for shares at each redemption level presented in your sensitivity analysis related to dilution.
27. 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.
28. Your charter waived the corporate opportunities doctrine. Please address this potential conflict of interest and whether it impacted your search for an acquisition target.
29. We note your disclosure of the Dow Commitment Letter, whereby "LMAO agreed to issue and sell, in a private placement to close immediately prior to the closing of the Business Combination, at least \$5,000,000 worth of Class A Common Stock" to the Dow Pension Funds. In addition, we note the Agreement and Plan of Merger filed as Annex A discloses a "PIPE Investment." Please update your disclosure to disclose if the SPAC's sponsors, directors officers or their affiliates will participate in the PIPE Investment and if

any other investors have committed to purchasing securities in the PIPE Investment. In addition, to the extent known, please highlight the material differences in the terms and price of securities issued at the time of the IPO as compared to the PIPE Investment contemplated at the time of the business combination. We note your footnote disclosure on page 23 indicates that the Dow Commitment Letter includes 500,000 shares.

30. Please highlight the material risks to public warrant holders, including those arising from differences between private and public warrants. Clarify whether recent common stock trading prices exceed the threshold that would allow the company to redeem public warrants. Clearly explain the steps, if any, the company will take to notify all shareholders, including beneficial owners, regarding when the warrants become eligible for redemption.

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.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Tracie Mariner at (202) 551-3744 or Al Pavot at (202) 551-3738 if you have questions regarding comments on the financial statements and related matters. Please contact Abby Adams at (202) 551-6902 or Jason Drory at (202) 551-8342 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Life Sciences

cc: Curt P. Creely, Esq.