



DIVISION OF  
CORPORATION FINANCE

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

September 19, 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.**  
**Amendment No. 3 to Registration Statement on Form S-4**  
**Filed September 13, 2022**  
**File No. 333-264993**

Dear Mr. Rodgers:

We have reviewed your amended registration statement and have the following comment. Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comment applies 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 this comment, we may have additional comments.

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

Seastar Medical's Business  
Clinical Studies, page 177

1. We reissue comment 6 insofar as you have not provided all serious adverse events for (1) the *AKI Safety, Mortality and Device Integrity Study* on page 177, for which you provide a non-exclusive list of serious adverse events, and (2) the *Pilot Feasibility Trial of SCD Therapy in ESRD Patients* on page 181, for which you state "very few adverse events or SAEs were observed," without further specifying all serious adverse events.

Bruce M. Rodgers  
LMF Acquisition Opportunities, Inc.  
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You may contact Tracie Mariner at (202) 551-3744 or Al Pavot at (202) 551-3738 if you have questions regarding 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.