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

DIVISION OF
CORPORATION FINANCE

August 3, 2023

Lori Bisson
Chief Executive Officer
Autonomix Medical, Inc.
21 Waterway Avenue, Suite 300
The Woodlands, TX 77380

Re: Autonomix Medical, Inc.
Offering Statement on Form 1-A
Filed July 7, 2023
File No. 024-12296

Dear Lori Bisson:

We have reviewed your offering 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 offering 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 offering statement and the information you provide in response to these comments, we may have additional comments.

Offering Statement on Form 1-A filed July 7, 2023

Cover Page

1. We note your disclosure that "We will pay a cash commission of 7.0% to Digital Offering on sales of the shares of common stock from investors introduced to us by Digital Offering and issue a warrant to Digital Offering to purchase that number of shares of Common Stock equal to 7.0% of the total number of shares sold in this offering, exercisable for five years at $6.25 per share." Please amend your cover page, including your table, to include the warrants and underlying common shares in the total volume of securities you are seeking to qualify in this offering, and the total dollar amount of securities you are seeking to qualify on this offering statement. In this regard, we note your disclosure that your filing "also registers the issuance of the shares of our common stock issuable upon exercise of such Selling Agent’s warrants," but it does not appear that these additional shares or the warrants are included in the total volume of securities on your cover page.

Summary, page 4

2. We note certain statements eluding to or stating efficacy determinations throughout your offering circular. For example, you state that your "technology platform includes a catheter-based microchip-enabled sensing array that can detect and differentiate neural signals with up to 1,000 times greater sensitivity than currently available transvascular technologies," your sensing catheter is able to "demonstrate efficacy in animal models," and that "there was a statistically significant reduction in tumor progression" in your Pilot Mouse Study. Please revise, throughout the offering circular, disclosure that states or implies that your device in development is effective, as these determinations are solely within the authority of the FDA and comparable regulatory bodies. We do not object to the presentation of objective data resulting from your trials without conclusions related to efficacy. Make conforming changes throughout your filing, including the description of your business.

3. Please amend your summary to disclose, as you do on page 10, that as of March 31, 2023, you had an accumulated deficit of $23,543,465, negative cash flows from operating activities of $1,854,398 and working capital of $644,028, which raises substantial doubt about your ability to continue as a going concern.

4. As a related matter, please amend your disclosure in this section to clearly disclose, if true, that you have not yet assembled or tested your device. In this regard, we note your risk factor disclosure on page 15 that "[w]e have no experience in assembling and testing our planned device, and no experience in doing so on a commercial scale." Alternatively, please revise your disclosure in the risk factor section for consistency, or advise.

Risk Factors
Concentration of ownership of our common stock . . ., page 23

5. We note your disclosure that "[yo]ur executive officers and directors, and their affiliates, in the aggregate, beneficially own approximately 55.0% of [y]our outstanding common stock as of the date hereof." Please tell us whether you will be deemed a "controlled company" as defined by the market on which you intend to list your securities and, if so, whether you intend to rely on any exemptions as a controlled company. If applicable, please disclose on the prospectus cover page and in the prospectus summary that you are a controlled company, and include a risk factor that discusses the effect, risks and uncertainties of being designated a controlled company.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Research and Development, page 37

6. We note the significant increase in your research and development expenses in fiscal 2023. Please revise future filings to provide more details about your research and development expenses for each period presented, including but not limited to by product/program as well as by the nature of the expenses. To the extent that you do not

track expenses by product candidate, please disclose as such.

Liquidity and Capital Resources, page 38

7. We note your disclosure in Results of Operations that "[t]he change in [general and administrative expense] is attributable primarily to the warrant expense of $12,866,911 incurred during the year ended March 31, 2022 related to our SAFE instrument." We also note your disclosure in the notes to the financial statements describing the "SAFE Financing." In your "Liquidity and Capital Resources" section, please provide additional detail describing the SAFE financing, including what the SAFE instrument is, the date of issuance, and any relevant, material terms of the issuance and the instrument.

Business, page 39

8. Please provide support for the following disclosure, or characterize the statements as management's opinions or beliefs:

- "very few tools currently exist for the sensing and targeting of individual nerve fibers within the peripheral nervous system;"
- "Although this vascular superhighway has long been utilized for certain catheter-based evaluation and intervention, its use throughout the body has been limited by the lack of adequate sophistication of catheter systems;"
- "This is a relatively quick, very common and safe method of access that should significantly reduce the potential for complications as compared with NCPB. With the benefit of our sensing technology, we have the potential to identify and target the nerves that are responsible for the pain signal and with the ability to focus the ablative energy on that target, we should have a much greater degree of accuracy, control and reliability as compared with NCPB;"
- "When comparing to the use of opioids, the potential benefits are even more obvious;" and
- the pain management market is a "$70 billion" market, and the hypertension market is a "$20 billion" market.

In addition, we note your statement that "All told, we believe the Autonomix platform has the potential to address more than $100 billion in market opportunities." Please clarify how you calculated that the potential addressable market for the Autonomix platform is $100 billion.

The Sensing Problem, page 40

9. Where you make a claim that is supported by industry literature or state the findings of such literature, please provide a citation to and, at each source's first instance, include

language summarizing the material conclusions of such literature. This includes, but is not limited to, the the American Cancer Society's "Key Statistics for Pancreatic Cancer" and "[a] market analysis published by Precedence Research" on page 44. As a related matter, please provide a citation to the "published survey" you reference in the section "Significant Unmet Need," and the "[s]tudies in animals" referenced on page 44.

The Autonomix Solution, page 41

10. We note that you analogize the equipment used in a catheter lab to a "mountain" and show an image of a "typical catheter room." However, we also note that the object your microchip replaces, based on the disclosure's description and the graphic's circle designating the replacement, does not appear to take up a large percentage of the room. Please revise to balance your disclosure and ensure that your description of your device and its ability remains objective, and clearly disclose, as appropriate throughout, that your device and its abilities are still in development. In addition, please clarify whether the "proprietary chipset" shown in your diagram has been developed, or is a rendering of your intended device. In this regard, we note your disclosure elsewhere that your device has yet to be assembled or tested.

Beneficial Clinical Trial Dynamics/Expedited Regulatory Process, page 43

11. We note that you "believe regulatory authorities are willing to consider lower preclinical hurdles and smaller and simpler trial designs to help encourage trial sponsors to seek improved treatment options." Please revise your disclosure to state that these decisions are under the exclusive control of regulatory authorities and there is no guarantee that certain trial designs will be approved. Further, when discussing trials, such as the reference to a "pivotal clinical trial" on pages 4 and 39, please revise to state that there is no guarantee that the results of the trials will produce positive results or that the results will support the Company's claims.

Regulatory Pathway, page 46

12. Here and throughout your offering circular, such as on page 48, when discussing regulatory approvals and projected timelines, please revise to state that any such approvals or time frames are not guaranteed. Please also describe the logistics related to establishing a Proof of Concept in Europe with the intention to focus your approval process on the United States.

Technology Development, page 47

13. We note that you plan to use an existing "off label" RF system in a PoC trial attempting to demonstrate that transvascular ablation of certain nerves will reduce pain. Please provide more detail regarding this trial and material steps necessary to complete prior to initiation of this trial.

Intellectual Property, page 49

14. Please revise to identify, for each material patent and provisional patent application, the identification number, type of patent protection, jurisdiction in which the protection is held, and expiration dates. Please also update your discussion to include the timeline of your specific trademarks, whether they are currently in active use, and whether they must be in continued use or will be maintained until a third-party challenge. In this regard, a tabular format may be useful.

15. We note your disclosure that "[i]n December 2021, we granted a company affiliated with certain early investors in the Company a license to our technology for use in the field of cardiology. The license provides the Company with an option to terminate in exchange for a termination fee of $14 million, which amount is payable in shares of common stock of the Company following Offering and which option the Company intends to exercise." Please amend your disclosure to provide additional detail regarding this license agreement, including any fees paid by the licensee to the company and any revenue generated under this agreement to date. Also, disclose the number of shares of common stock the company may issue in lieu of the termination fee, and amend your risk factors to disclose any risks related to dilution from the issuance of these shares.

Exclusive Forum Provision, page 63

16. Please revise this section to disclose the risks that the exclusive forum provision may result in increased costs for investors to bring a claim. Please make conforming changes to your risk factor at the top of page 27. As a related matter, please amend your risk factor disclosure to include the risks to investors related to the forum selection provision in your subscription agreement described on page 75.

Exhibits

17. Please include all material exhibits in future filings. This includes, but may not be limited to, the employment agreement with Lori Bisson and your 2023 Stock Plan.

We will consider qualifying your offering statement at your request. If a participant in your offering is required to clear its compensation arrangements with FINRA, please have FINRA advise us that it has no objections to the compensation arrangements prior to qualification.

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. We also remind you that, following qualification of your Form 1-A, Rule 257 of Regulation A requires you to file periodic and current reports, including a Form 1-K which will be due within 120 calendar days after the end of the fiscal year covered by the report.

You may contact Christie Wong at 202-551-3684 or Terence O'Brien at 202-551-3355 if you have questions regarding comments on the financial statements and related matters. Please contact Benjamin Richie at 202-551-7857 or Katherine Bagley at 202-551-2545 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Industrial Applications and Services

cc: Cavas S. Pavri