



DIVISION OF
CORPORATION FINANCE

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

October 24, 2024

Jon Olsen
Chief Executive Officer
Firefly Neuroscience, Inc.
1100 Military Road
Kenmore, NY 14217

Re: Firefly Neuroscience, Inc.
Registration Statement on Form S-1
Filed September 27, 2024
File No. 333-282357

Dear Jon Olsen:

We have reviewed your registration statement and have the following comments.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe a 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 letter, we may have additional comments.

Registration Statement on Form S-1

Prospectus Summary, page 4

1. Here and throughout your registration statement, clarify that the company's business model is based on a product that has not yet been launched.

Private Placement, page 5

2. We note that on page 5 and elsewhere throughout the filing you describe the private placement that closed on August 12, 2024. Please tell us how you calculated approximately \$3.5 million in aggregate gross proceeds from this private placement. Revise the private placement disclosures throughout the filing accordingly to ensure accuracy and consistency.

Risk Factors, page 8

3. We note that Article X of the Certificate of Incorporation (Exhibit 3.1) includes exclusive forum provisions. Please revise to add risk factor disclosure related to these provisions, including risks related to increased costs for investors to bring a claim and that these provisions can discourage claims or limit investors' ability to bring a claim in a judicial forum that they find favorable. In an appropriate place in your filing, please include disclosure clearly describing the provision, including the relevant forum for litigation, any subject matter jurisdiction carve out, and questions of enforceability.

We may be unable to compete successfully with competitive technologies...., page 13

4. You disclose that the company's continued success depends on its ability to successfully launch its commercialization program to target clinicians. Please expand your disclosure to discuss your target customer base and specifically "target clinicians." Discuss whether the company intends to focus its commercialization program in the United States or Europe.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 36

5. We note that you indicate that your BNA Platform is FDA approved and you are in a position to undertake a commercial launch of the platform. Please enhance your disclosure by discussing the anticipated timing for commercial launch, your planned activities and the estimated costs necessary to achieve commercialization, and your anticipated sources of revenue upon commercialization. In addition, revise throughout to clearly differentiate between products that have been developed and are available in the market and those that are still in the development stage and are not yet available.
6. Please expand your disclosure in this section to include a discussion about the company's anticipated sources of revenue and how it expects to generate such revenue.

Business, page 46

7. We note your disclosure that Firefly is an "artificial intelligence company" and that the BNA Platform is "Artificial Intelligence driven." Please revise to explain how your product uses artificial intelligence and machine learning.

Market Opportunity, page 53

8. Please expand your disclosure here to clarify the market opportunity for the BNA Platform and Firefly's future products. Explain how this is calculated, including any assumptions or limitations.

Executive Compensation, page 70

9. Please explain why Paul Krzywicki is not included in the Executive Compensation discussion. In this regard, we note that he joined the company in November 2023. Refer to Item 402 of Regulation S-K.

Beneficial Ownership of Securities, page 91

10. Please revise the footnotes to the table to identify the individuals who exercise voting and investment power over the securities owned by Windsor Private Capital LP and Roxy Capital Corporation.

Plan of Distribution, page 102

11. We note your disclosure that the selling securityholders may sell their securities "to or through underwriters or broker-dealers" and that "[a]t the time a particular offer of Securities is made, if required, a prospectus supplement will be distributed that will set forth the number of Securities being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallocated or paid to any dealer, and the proposed selling price to the public." Please confirm your understanding that the retention by a selling stockholder of an underwriter would constitute a material change to your plan of distribution requiring a post-effective amendment. Refer to your undertaking provided pursuant to Item 512(a)(1)(iii) of Regulation S-K.

Pro Forma Financial Information, page 105

12. Please provide an introduction to the pro forma financial statements, prepared pursuant to the guidance in Rule 11-02(a)(2) of Regulation S-X.
13. Please provide updated pro forma financial statements, pursuant to Rule 11-02(c) of Regulation S-X.
14. Revise the presentation of the columns in your pro forma financial statements so that the Tellenger Sale Transaction adjustments and the Wind-down of WaveDancer Corporate adjustments are presented immediately after the historic WaveDancer information, followed by a subtotal column to reflect WaveDancer on a pro forma basis. This should be followed by the historic Firefly Neuroscience financial information, the adjustments to give pro forma effect to the merger, and the pro forma combined financial statements.

Unaudited Pro Forma Condensed Combined Statement of Operations, page 106

15. The historical income statements used in the pro forma financial information should only be presented through income from continuing operations pursuant to Rule 11-02(b)(1) of Regulation S-X. Please revise accordingly.
16. Provide pro forma earnings (loss) per share data for the year-end and interim period, giving effect to the number of shares to be issued in the merger with WaveDancer after the effects of the 1-for-3 reverse stock split. This should be accompanied by a detailed footnote explaining the calculation, including the pro forma number of outstanding shares calculated based upon the exchange ratio.

Notes To The Unaudited Pro Forma Condensed Combined Financial Information, page 108

17. We note on page 108 "for the purposes of the unaudited pro forma condensed combined financial information, the exchange ratio is assumed to be 0.42." Please explain to us why you did not assume an exchange ratio of 0.1040, consistent with the disclosure under Subsequent Events on page F-14.
18. Please tell us if Merger Adjustment (k) to the unaudited Pro Forma Condensed Combined Balance Sheet as of March 31, 2024 represents the gross proceeds from the private placement that closed on August 12, 2024. If so, please revise Note 3(k) accordingly.
19. With a view towards expanded disclosure in Note 3(l), please explain to us the purpose of issuing the common shares, the nature of the consulting services to be received, and why it is considered directly related to the transaction. Also, explain why you will immediately record an impairment of \$105,188.
20. We note in Notes 3(l), (m), (n), (t), and (u) the company will be issuing shares in exchange for future services. Tell us your basis in Article 11 of Regulation S-X for giving pro forma effect to the prepayment of future services. Also, explain to us your consideration of disclosing these arrangements as Management's Adjustments in accordance with Rule 11-02(a)(7) of Regulation S-X.
21. We note in Note 3(r) you refer to two officers of Firefly while in Note 3(s) you refer to two officers of the company. Clarify if these are the same two officers and, if applicable, please be consistent in how you refer to the company.
22. It is unclear how adjustment 5(g) is related to the merger transaction. Please remove or revise and advise us.

General

23. On the cover page of your registration statement, we note you have checked that you qualify as a smaller reporting company. Please revise the filing to discuss that the company is a smaller reporting company and include a risk factor that discusses the reduced disclosure requirements applicable to smaller reporting companies.

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.

October 24, 2024

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Please contact Anastasia Kaluzienski at 202-551-3685 or Robert Littlepage at 202-551-3361 if you have questions regarding comments on the financial statements and related matters. Please contact Alexandra Barone at 202-551-8816 or Mitchell Austin at 202-551-3574 with any other questions.

Sincerely,

Division of Corporation Finance
Office of Technology

cc: Rick Werner, Esq.