



DIVISION OF
CORPORATION FINANCE

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

December 13, 2024

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

Re: Firefly Neuroscience, Inc.
Amendment No. 1 to Registration Statement on Form S-1
Filed December 4, 2024
File No. 333-282357

Dear Jon Olsen:

We have reviewed your amended 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. Unless we note otherwise, any references to prior comments are to comments in our October 24, 2024 letter.

Amendment No. 1 to Registration Statement on Form S-1

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

1. We note your responses to prior comments 5 and 6. Please expand your disclosure to provide a comprehensive explanation of the company's planned activities to achieve commercialization of the BNA Platform in the first half of 2025, and to discuss the type of business model the company intends to use to generate revenue.

Results of Operations, page 39

2. Where you attribute material fluctuations in your results to multiple factors, please quantify each factor cited so that investors may understand the magnitude and relative impact of each factor. As an example, you cite multiple factors which caused an

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increase in your selling and marketing expenses during the three months ended September 30, 2024 without quantification that would allow users to understand the impact of each material factor. Refer to Item 303(b) of Regulation S-K and Section III.B of Release No. 33-8350.

Business

Overview, page 46

3. We note your response to prior comment 7. Please revise to clarify how the BNA Platform uses AI and machine learning, including how the platform uses clustering analysis.

Index to the Financial Statements, page F-1

4. Please provide the unaudited condensed consolidated statements of cash flows for the nine months ended September 30, 2024 and 2023.
5. Please adjust the weighted average number of shares used in the calculations of historic net loss per common share for the years ended December 31, 2023 and 2022 to give effect to the merger exchange ratio. The issuance of shares of common stock to shareholders of an operating company in a reverse recapitalization transaction is considered, in substance, to be a stock split. Your financial statements should retroactively reflect this reverse stock split in accordance with ASC 260-10-55-12.

Unaudited Condensed Consolidated Balance Sheet as of September 30, 2024, page F-2

6. We note your disclosure on page F-13 that on August 12, 2024, you issued 45,344 shares of common stock with the intention to settle accrued liabilities. We further note that you did not reach a contractual agreement to settle the outstanding amount and therefore recognized a note receivable as contra-equity in return for shares issued. Please tell us the value of the shares issued and where the contra-equity is reflected in the financial statements.

Please contact Anastasia Kaluziński 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.