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April 11, 2023

Via EDGAR

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549  
Attn: Kevin W. Vaughn

**RE: AcelRx Pharmaceuticals, Inc.  
Current Report on Form 8-K (File No. 001-35068)  
Filed March 30, 2023**

Ladies and Gentlemen:

On behalf of AcelRx Pharmaceuticals, Inc. (the “*Company*”), this letter is being transmitted in response to a comment received from the staff (the “*Staff*”) of the Securities and Exchange Commission, by letter dated March 30, 2023 (the “*Comment Letter*”), regarding the Company’s Current Report on Form 8-K, filed on March 30, 2023 (the “*Form 8-K*”). The text of the Staff’s comment has been included in this letter in italics for your convenience, and we have numbered the paragraph below to correspond to the numbering of the Comment Letter.

*Form 8-K filed March 30, 2023*

*Item 4.02. Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review, page 2*

- 1. Please revise your disclosure to include a statement of whether the audit committee, or the board of directors in the absence of an audit committee, or authorized officer or officers, discussed with the registrant’s independent accountant the matters disclosed in the filing pursuant to Item 4.02(a)(3).*

The Company respectfully acknowledges the Staff’s comment and advises the Staff, that in Item 9B. “Other Information” to its Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Commission on March 31, 2023 (the “*Annual Report*”), the Company included the information previously set forth in the Form 8-K and further disclosed:

“On March 30, 2023, the Company’s management and the Audit Committee of the Company, in discussion with the Company’s independent registered accounting firm, WithumSmith+Brown PC, determined that the Company’s Prior Period Financial Statements for the Interim Periods, should no longer be relied upon because of the error in the earnings per share calculations. The Company’s management and the Audit Committee concluded that it is appropriate to restate the Prior Period Financial Statements for the Interim Periods noted above.”



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As the Annual Report was filed within the requisite four business days of the determination date of March 30, 2023, and one business day following the filing of the Form 8-K, the Company respectfully submits that it has provided the missing information with respect to Item 4.02(a) (3), and that an amendment of the Form 8-K is not necessary per General Instruction B.3. to Form 8-K, and upon the filing of the Annual Report and the separate and prominent presentation of the disclosure in Item 9B. "Other Information" investors were adequately advised of the discussions with the Company's independent accountant with respect to the restatement.

Should you have any questions regarding this matter, please feel free to contact me at (650) 843-5059.

Sincerely,

COOLEY LLP

/s/ JOHN T. MCKENNA

John T. McKenna

cc: Raffi Asadorian – *AcelRx Pharmaceuticals, Inc.*  
Thomas McCracken – *AcelRx Pharmaceuticals, Inc.*

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