FORM 4

## UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

| Check this box if no longer subject to |
|--|
| Section 16. Form 4 or Form 5           |
| obligations may continue. See          |
| Instruction 1(h)                       |

## STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

**OMB APPROVAL** OMB Number: Estimated average burden hours per response: 0.5

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| Name and Address of Reporting Person*     COHEN CHARLES J.   |   |  |   |                               |   | 2. Issuer Name and Ticker or Trading Symbol  Xenon Pharmaceuticals Inc. [ XENE ] |      |  |                                      |   |  |   | of Reportin<br>cable)<br>or<br>(give title   | g Pers        | son(s) to Issu<br>10% Ow<br>Other (s                                     | ner  |  |
|--|---|--|---|-------------------------------|---|--|------|--|--------------------------------------|---|--|---|--|---------------|--|--|--|
| (Last) (First) (Middle) C/O XENON PHARMACEUTICALS INC  |   |  |   |                               | 3. Date of Earliest Transaction (Month/Day/Year) 10/23/2017 |  |      |  |                                      |   |  | X Officer (give fitte Other (specify below)  VP, Biology                          |  |               |  |  |  |
| 200 - 3650 GILMORE WAY   |   |  |   |                               | 4. If Amendment, Date of Original Filed (Month/Day/Year)    |  |      |  |                                      |   |  | Individual or Joint/Group Filing (Check Applicable                                |  |               |  |  |  |
| (Street) BURNABY A1  |   |  | V5G 4W8   |                               |   |  |      |  |                                      |   |  | X Form filed by One Reporting Person Form filed by More than One Reporting Person |  |               |  |  |  |
| (City) (State) (Zip)   |   |  |   |                               |   |  |      |  |                                      |   |  | 1 01001   | •  |               |  |  |  |
| Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned   |   |  |   |                               |   |  |      |  |                                      |   |  |   |  |               |  |  |  |
| Date   |   |  |   | ransaction<br>e<br>onth/Day/Y | ear) i  | 2A. Deemo<br>Execution<br>if any<br>(Month/Da                                    | Date | Code (Ins  | Transaction Disposed Code (Instr. 5) |   | ed (A) or<br>etr. 3, 4 and             | Benefici  | s<br>ally<br>following   | Form<br>(D) o | i. Ownership<br>Form: Direct<br>D) or Indirect<br>I) (Instr. 4)          | 7. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4)  |  |
|  |   |  |   |                               |   |  |      | Code V   | Amount                               | (A) or<br>(D)   | Price                                  | Transact<br>(Instr. 3   | ion(s)   |               |  | misti. 4)  |  |
| Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |   |  |   |                               |   |  |      |  |                                      |   |  |   |  |               |  |  |  |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)  | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | 3. Transaction<br>Date<br>(Month/Day/Year) | 3A. Deemed<br>Execution Date,<br>if any<br>(Month/Day/Yea | Code                          |   |  |      | 6. Date Exercisable and<br>Expiration Date<br>(Month/Day/Year) |                                      | 7. Title and Amount<br>of Securities<br>Underlying<br>Derivative Security<br>(Instr. 3 and 4) |  | 8. Price of<br>Derivative<br>Security<br>(Instr. 5)                               | 9. Number of<br>derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction(s)<br>(Instr. 4) |               | 10.<br>Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr. 4) | 11. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |  |
|  |   |  |   | Code                          | v   | (A) (D)  |      | Date<br>Exercisable  | Expiration<br>Date                   | Title   | Amount<br>or<br>Number<br>of<br>Shares |   |  |               |  |  |  |
| Stock<br>Option<br>(Right to<br>Buy)   | \$3.1   | 10/23/2017                                 |   | A                             |   | 11,000   |      | (1)  | 10/22/2027                           | Common<br>Shares  | 11,000                                 | \$0.00  | 11,000   | 0             | D  |  |  |

## **Explanation of Responses:**

1. Vesting 25% on October 23, 2018, and 75% vesting thereafter over the course of the next 3 years, in equal amounts, on the last day of each month.

/s/ Joanne Smartt, Attorney-infact

10/24/2017

\*\* Signature of Reporting Person

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

- \* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.