

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

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

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

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| 1. Name and Address of Reporting Person* <u>ANASTASIO CURT</u> (Last) (First) (Middle) <u>2330 NORTH LOOP 1604 WEST</u> (Street) <u>SAN ANTONIO TX</u> <u>78248</u> (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol <u>NuStar Energy L.P. [NS]</u> 3. Date of Earliest Transaction (Month/Day/Year) <u>01/28/2011</u> 4. If Amendment, Date of Original Filed (Month/Day/Year) | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>President & CEO</u> 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person |
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Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|-------|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price | | | |
| Common Units | 01/28/2011 | | A | | 13,908 ⁽¹⁾ | A | \$0 | 83,024 | D | |

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|--|--|-----------------|---|----------------------------|--|--|---|--|
| | | | | | | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | | |

Explanation of Responses:

1. On January 28, 2011, the Compensation Committee of the Board of Directors of NuStar GP LLC, the general partner of NuStar Energy L.P.'s general partner, determined that NuStar Energy L.P.'s total unitholder return was in the top quartile of its peer group for 2010. As a result, the performance units granted to Mr. Anastasio in 2008, 2009 and 2010 that were available to vest for 2010 performance vested at 150%, in accordance with the applicable agreements. Under the agreements, performance units available to vest that do not vest in a given year are carried forward for one year. In addition, under the omnibus amendments to the applicable award agreements, performance units that would have lapsed in January 2010 were carried forward for an additional year. These carried-forward units vested at 100%, in accordance with the agreements.

/s/ Matthew D. Willcox, as
Attorney-in-Fact for Curtis V. Anastasio 02/01/2011

** 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.