ADVANCED ENERGY INDUSTRIES INC Form SC 13G March 11, 2011

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

SCHEDULE 13G (Rule 13d-102)

Information Statement Pursuant to Rules 13d-1 and 13d-2 Under the Securities Exchange Act of 1934 (Amendment No.)*

| Advanced Energy Industries, Inc. (Name of Issuer) | | | | | |
|---|--|--|--|--|--|
| Common Stock, par value \$0.001 per share (Title of Class of Securities) | | | | | |
| 007973100 (CUSIP Number) | | | | | |
| March 1, 2011 Date of Event Which Requires Filing of the Statement | | | | | |
| Check the appropriate box to designate the rule pursuant to which this Schedule is filed: | | | | | |
| [] Rule 13d-1(b) | | | | | |
| [X] Rule 13d-1(c) | | | | | |
| [] Rule 13d-1(d) | | | | | |
| \$TTL | | | | | |

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

Cusip No. 007973100 13G Page 2 of 10 Pages

NAME OF REPORTING PERSON
 S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

Citadel Advisors LLC

- 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
 - (a) o

(b) o

- 3. SEC USE ONLY
- 4. CITIZENSHIP OR PLACE OF ORGANIZATION Delaware

| | 5. | SOLE VOTING POWER |
|--------------|----|------------------------|
| NUMBER OF | | 0 |
| SHARES | | |
| BENEFICIALLY | 6. | SHARED VOTING POWER |
| OWNED BY | | |
| EACH | | 2,065,724 shares |
| REPORTING | | |
| PERSON | | |
| WITH | 7. | SOLE DISPOSITIVE POWER |

8. SHARED DISPOSITIVE POWER See Row 6 above.

0

- 9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON See Row 6 above.
- 10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES o
- 11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

4.8%1

12. TYPE OF REPORTING PERSON IA; OO; HC

¹The percentages reported in this Schedule 13G are based upon 43,450,710 shares of Common Stock outstanding as of March 1, 2011 (according to the Form 10-K filed by the issuer on March 2, 2011).

Cusip No. 007973100 13G Page 3 of 10 Pages

NAME OF REPORTING PERSON
 S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

Citadel Holdings II LP

- 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
 - (a) o
 - (b) o
- 3. SEC USE ONLY
- 4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

- 5. SOLE VOTING POWER NUMBER OF 0 **SHARES BENEFICIALLY** 6. SHARED VOTING POWER **OWNED BY EACH** 2,065,724 shares REPORTING **PERSON** 7. SOLE DISPOSITIVE POWER WITH
 - 8. SHARED DISPOSITIVE POWER See Row 6 above.

0

- 9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON See Row 6 above.
- 10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES o
- 11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

4.8%

12. TYPE OF REPORTING PERSON PN; HC

Cusip No. 007973100 13G Page 4 of 10 Pages

NAME OF REPORTING PERSON
 S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

Citadel Investment Group II, L.L.C.

- 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
 - (a) o
 - (b) o
- 3. SEC USE ONLY
- 4. CITIZENSHIP OR PLACE OF ORGANIZATION Delaware

5. SOLE VOTING POWER

NUMBER OF
SHARES

BENEFICIALLY
6. SHARED VOTING POWER

OWNED BY
EACH
REPORTING
PERSON
WITH
7. SOLE DISPOSITIVE POWER

0

- 8. SHARED DISPOSITIVE POWER See Row 6 above.
- 9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON See Row 6 above.
- 10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES
- 11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

4.8%

12. TYPE OF REPORTING PERSON OO; HC

Cusip No. 007973100 Page 5 of 10 Pages 13G

NAME OF REPORTING PERSON 1. S.S. OR I.R.S. IDENTIFICATION NO. OF ABOVE PERSON

Kenneth Griffin

- 2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
 - (a) o

(b) o

- 3. SEC USE ONLY
- CITIZENSHIP OR PLACE OF ORGANIZATION 4.

U.S. Citizen

5. **SOLE VOTING POWER** NUMBER OF

SHARES

BENEFICIALLY

6. SHARED VOTING POWER

OWNED BY

EACH

2,084,006 shares

REPORTING

PERSON

WITH

7. SOLE DISPOSITIVE POWER

8. SHARED DISPOSITIVE POWER

See Row 6 above.

- 9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON See Row 6 above.
- 10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES o
- PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 11.

4.8%

TYPE OF REPORTING PERSON 12. IN; HC

7

Cusip No. 007973100 13G Page 6 of 10 Pages

Item 1(a) Name of Issuer

Advanced Energy Industries, Inc.

Item 1(b) Address of Issuer's Principal Executive Offices

1625 Sharp Point Drive, Fort Collins, Colorado 80525

Item 2(a) Name of Person Filing

This Schedule 13G is being jointly filed by Citadel Advisors LLC ("Citadel Advisors"), Citadel Holdings II LP ("CH-II"), Citadel Investment Group II, L.L.C. ("CIG-II") and Mr. Kenneth Griffin (collectively with Citadel Advisors, CH-II and CIG-II, the "Reporting Persons") with respect to shares of Common Stock of the above-named issuer (and/or options to purchase such shares) owned by Citadel Global Equities Master Fund Ltd., a Cayman Islands limited company ("CG"), PioneerPath Capital Ltd., a Cayman Islands limited company ("PPC"), Citadel Equity Fund Ltd., a Cayman Islands limited company ("CEF"), certain segregated accounts and Citadel Securities LLC, a Delaware limited liability company ("Citadel Securities").

Citadel Advisors is the portfolio manager for CG, PPC and CEF, and the investment manager for certain segregated accounts. CH-II is the managing member of Citadel Advisors. Citadel Holdings I LP, a Delaware limited partnership ("CH-I"), is the non-member manager of Citadel Securities. CIG-II is the general partner of CH-I and CH-II. Mr. Griffin is the President and Chief Executive Officer of, and owns a controlling interest in, CIG-II.

The filing of this statement shall not be construed as an admission that any of the Reporting Persons is the beneficial owner of any securities covered by the statement other than the securities actually owned by such person (if any).

Item 2(b) Address of Principal Business Office

The address of the principal business office of each of the Reporting Persons is c/o Citadel LLC, 131 S. Dearborn Street, 32nd Floor, Chicago, Illinois 60603.

Item 2(c) Citizenship

Each of Citadel Advisors and CIG-II is organized as a limited liability company under the laws of the State of Delaware. CH-II is organized as a limited partnership under the laws of the State of Delaware. Mr. Griffin is a U.S. citizen.

Item 2(d) Title of Class of Securities

Common Stock, \$0.001 par value

Item 2(e) CUSIP Number

007973100

| Cusip No. 007973100 | | 13G | Pag | ge 7 of 10 Page | es | |
|---------------------|---|--|--|--------------------|----------------------------|---|
| Item 3 | 3 If this stateme | ent is filed pur | suant to Rules | s 13d-1(b), or 13 | 3d-2(b) or (c), | check whether the person filing is a: |
| (a) [] | | Broker o | Broker or dealer registered under Section 15 of the Exchange | | | |
| (b) [] | | Bank as defined in Section 3(a)(6) of the Excha | | | a)(6) of the Exchange Act; | |
| (c) [_] I | | | Insurance co | mpany as defin | ed in Section 3 | 3(a)(19) of the Exchange Act; |
| | (d) [_ | _] Invest | ment compan | y registered und | ler Section 8 c | of the Investment Company Act; |
| | (e) | [] | An inve | stment adviser i | n accordance | with Rule 13d-1(b)(1)(ii)(E); |
| (| (f) [_] | An employee | benefit plan | or endowment f | fund in accord | ance with Rule 13d-1(b)(1)(ii)(F); |
| (| (g) [] | A parent ho | lding compan | y or control pers | son in accorda | ance with Rule 13d-1(b)(1)(ii)(G); |
| | (h) [] | A savings | association as | s defined in Sect | tion 3(b) of the | e Federal Deposit Insurance Act; |
| (i)[_ | - | an that is excl Company Act; | uded from th | e definition of a | an investment | company under Section 3(c)(14) of the |
| | (j) | [_ | _] | Group, in a | ccordance with | h Rule 13d-1(b)(1)(ii)(J). |
| If filin | ng as a non-U | S. institution | in accordanc | e with Rule 13d | d-1(b)(1)(ii)(J |), please specify the type of institution |
| Item 4 | 1 | | | Owner | rship | |
| A. | Citadel Ad | visors LLC | | | | |
| | (a) Ci | itadel Advisors | s may be deen | ned to beneficia | lly own 2,065 | ,724 shares of Common Stock. |
| | he number of s ommon Stock | | Advisors may | be deemed to b | eneficially ow | on constitutes approximately 4.8% of th |
| (c) | Number of shares as to which such person has: | | | | | |
| | | (i) | | sole power to | o vote or to di | rect the vote: 0 |
| | | (ii) | shar | ed power to vote | e or to direct t | he vote: 2,065,724 |
| | • | (iii) sole power to dispose or to direct the disposition of: | | | he disposition of: 0 | |
| | (iv) | | shared powe | r to dispose or to | o direct the dis | sposition of: 2,065,724 |
| | | | | | | |

| Cusip No. 007973100 13C | | 13G | Page 8 of 10 Pages | | | | |
|-------------------------|---|---|---|--|--|--|--|
| B. | Citadel Holdin | gs II LP | | | | | |
| | (a) | CH-II may be deemed to | peneficially own 2,065,724 shares of Common Stock. | | | | |
| | e number of shareck outstanding. | es CH-II may be deemed to | beneficially own constitutes approximately 4.8% of the Common | | | | |
| (c) | Number of sha | ares as to which such person | has: | | | | |
| | | (i) | sole power to vote or to direct the vote: 0 | | | | |
| | (ii) | shared J | shared power to vote or to direct the vote: 2,065,724 | | | | |
| | (iii) | sole pov | ver to dispose or to direct the disposition of: 0 | | | | |
| | (iv) | shared power to | dispose or to direct the disposition of: 2,065,724 | | | | |
| C. | Citadel Investment Group II, L.L.C. | | | | | | |
| | (a) | CIG-II may be deemed to | beneficially own 2,084,006 shares of Common Stock. | | | | |
| | e number of shareck outstanding. | es CIG-II may be deemed to | beneficially own constitutes approximately 4.8% of the Commor | | | | |
| (c) | Number of shares as to which such person has: | | | | | | |
| | | (i) | sole power to vote or to direct the vote: 0 | | | | |
| | (ii) | shared p | power to vote or to direct the vote: 2,084,006 | | | | |
| | (iii) | sole pov | ver to dispose or to direct the disposition of: 0 | | | | |
| | (iv) | shared power to | dispose or to direct the disposition of: 2,084,006 | | | | |
| D. | Kenneth Griffi | n | | | | | |
| | (a) M | r. Griffin may be deemed to | beneficially own 2,084,006 shares of Common Stock. | | | | |
| | e number of share mmon Stock outs | _ | ed to beneficially own constitutes approximately 4.8% of the | | | | |
| (c) | Number of sha | Number of shares as to which such person has: | | | | | |
| | | (i) | sole power to vote or to direct the vote: 0 | | | | |
| | (ii) | shared 1 | power to vote or to direct the vote: 2,084,006 | | | | |
| | (iii) | sole pow | ver to dispose or to direct the disposition of: 0 | | | | |

(iv) shared power to dispose or to direct the disposition of: 2,084,006

Cusip No. 007973100 13G Page 9 of 10 Pages

Item 5 Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than 5 percent of the class of securities, check the following x.

Item 6 Ownership of More than Five Percent on Behalf of Another Person Not Applicable

Item 7Identification and Classification of the Subsidiary which Acquired the Security Being Reported on by the Parent Holding Company

See Item 2 above

Item 8 Identification and Classification of Members of the Group

Not Applicable

Item 9 Notice of Dissolution of Group

Not Applicable

Item 10 Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

Cusip No. 007973100 13G Page 10 of 10 Pages

After reasonable inquiry and to the best of its knowledge and belief, the undersigned certify that the information set forth in this statement is true, complete and correct.

Dated this 11th day of March, 2011.

/s/ John C. Nagel

CITADEL INVESTMENT GROUP II, L.L.C.

By:

CITADEL ADVISORS LLC CITADEL HOLDINGS II LP

By: Citadel Holdings II LP, By: Citadel Investment Group II, L.L.C.,

its Managing Member its General Partner

By: Citadel Investment Group II, L.L.C., By: /s/ John C. Nagel

its General Partner John C. Nagel, Authorized Signatory

John C. Nagel, Authorized Signatory

By: /s/ John C. Nagel By: /s/ John C. Nagel

John C. Nagel, Authorized Signatory

John C. Nagel, attorney-in-fact*

KENNETH GRIFFIN

^{*}John C. Nagel is signing on behalf of Kenneth Griffin as attorney-in-fact pursuant to a power of attorney previously filed with the Securities and Exchange Commission on February 24, 2006, and hereby incorporated by reference herein. The power of attorney was filed as an attachment to a filing by Citadel Limited Partnership on Schedule 13G for Morgans Hotel Group Co.