UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ACTIVE POWER, INC.

(Exact name of Registrant as specified in its charter)

Delaware

Large accelerated filer

(State or other jurisdiction of incorporation or organization)

74-2961657

(I.R.S. Employer Identification Number)

2128 W. Braker Lane, BK12 Austin, Texas 78758 (512) 836-6464

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

2010 EQUITY INCENTIVE PLAN (Full title of the plan)

J. Douglas Milner Chief Executive Officer ACTIVE POWER, INC. 2128 W. Braker Lane, BK12 Austin, Texas 78758 (512) 836-6464

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copy to:

Derek L. Willis, Esq.
Wilson Sonsini Goodrich & Rosati
Professional Corporation
900 South Capital of Texas Highway
Las Cimas IV, Fifth Floor
Austin, TX 78746

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Accelerated filer

Non-accelerated filer □ (Do not check if a smaller reporting compar	Smaller reporting company □					
CALCULATION OF REGISTRATION FEE						
	Amount of Shares to be	Proposed Maximum Offering	Proposed Maximum Aggregate	Amount of Registration Fee		
Title of Securities to be Registered	Registered (1)	Price Per Share (2)	Offering Price (2)			
Common Stock, \$0.001 par value	8,500,000	\$0.79	\$6,715,000	\$769.54		

- (1) This Registration Statement shall also cover any additional shares of Common Stock which become issuable under the 2010 Equity Incentive Plan by reason of any stock dividend, stock split, recapitalization or any other similar transaction effected without the receipt of consideration that results in an increase in the number of the Registrant's outstanding shares of Common Stock.
- (2) Estimated pursuant to Rule 457(c) and (h) solely for the purpose of calculating the amount of the registration fee, based on the average of the high and low

sales price of the Common Stock on May 30, 2012, as reported on the Nasdaq Stock Market.

INTRODUCTION

STATEMENT UNDER GENERAL INSTRUCTION E — REGISTRATION OF ADDITIONAL SECURITIES

This Registration Statement on Form S-8 (this "Registration Statement") is being filed for the purpose of registering an additional 8,500,000 shares of Active Power, Inc.'s (the "Registrant") Common Stock to be issued pursuant to the Registrant's 2010 Equity Incentive Plan (the "Plan"). The contents of (i) the Registrant's Form S-8 Registration Statement filed with the Securities and Exchange Commission (the "Commission") on May 21, 2010 (File No. 333-167005) relating to the Plan (the "Filed S-8"), including periodic filings updating or amending the contents of the Filed S-8, are incorporated by reference into this Registration Statement pursuant to General Instruction E of Form S-8. The reports the Registrant has most recently filed with the Commission are listed below in Part II, Item 3.

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Consent of Independent Registered Public Accounting Firm

PART II

INFORMATION REQUIRED IN REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant with the Commission are hereby incorporated by reference into this Registration Statement:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2011, filed with the Commission on March 1, 2012 pursuant to Section 13 of the Securities Exchange Act of 1934, as amended (the "Exchange Act");
 - (b) The Registrant's Quarterly Report on Form 10-Q filed with the Commission on April 30, 2012;
 - (c) the Registrant's definitive proxy statement for our 2012 annual meeting of stockholders, filed with the Commission on April 11, 2012;
- (d) The Registrant's Current Reports on Form 8-K filed with the Commission on January 18, 2012, February 23, 2012, February 24, 2012, March 8, 2012, and May 23, 2012; and
- (e) The Registrant's Registration Statement No. 000-30939 on Form 8-A12G filed with the Commission on June 30, 2000, including any amendment or report filed for the purpose of updating such description.

All documents subsequently filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this Registration Statement to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 5. Interests of Named Experts and Counsel.

None.

Item 6. Indemnification of Directors and Officers.

The Registrant's amended and restated certificate of incorporation contains provisions that eliminate, to the maximum extent permitted by the General Corporation Law of the State of Delaware, the personal liability of directors and executive officers for monetary damages for breach of their fiduciary duties as a director or officer. The Registrant's amended and restated certificate of incorporation and amended and restated bylaws provide that the Registrant shall indemnify its directors and executive officers and may indemnify its employees and other agents to the fullest extent permitted by the General Corporation Law of the State of Delaware.

Sections 145 and 102(b)(7) of the General Corporation Law of the State of Delaware provide that a corporation may indemnify any person made a party to an action by reason of the fact that he or she was a director, executive officer, employee or agent of the corporation or is or was serving at the request of the corporation against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of an action by or in right of the corporation, no indemnification may generally be made in respect of any claim as to which such person is adjudged to be liable to the corporation.

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The Registrant has entered into indemnification agreements with its directors and executive officers, in addition to the indemnification provided for in its amended and restated certificate of incorporation and amended and restated bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

The Registrant has purchased and intends to maintain insurance on behalf of any person who is or was a director or officer of the Registrant against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

See also the undertakings set out in our response to Item 9 herein.

Item 8. Exhibits.

The Exhibits listed on the accompanying Index to Exhibits are filed as part of, or incorporated by reference into, this Registration Statement.

Item 9. Undertakings.

- (a) The undersigned Registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
- (ii) To reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and
- (iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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(c) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant, Active Power, Inc., certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Austin, State of Texas, on June 6, 2012.

ACTIVE POWER, INC.

By:/s/ J. Douglas Milner

J. Douglas Milner President, Chief Executive Officer and Director

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints J. Douglas Milner and John Penver, and each of them, his attorneys-in-fact, each with the power of substitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Registration Statement, and to file the same, with all exhibits thereto and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that such attorneys-in-fact and agents or any of them, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

PURSUANT TO THE REQUIREMENTS OF THE SECURITIES ACT OF 1933, AS AMENDED, THIS REGISTRATION STATEMENT ON FORM S-8 HAS BEEN SIGNED BY THE FOLLOWING PERSONS IN THE CAPACITIES AND ON THE DATES INDICATED.

Signature	Title	Date	
/s/ J. Douglas Milner J. Douglas Milner	Chief Executive Officer, President and Director (Principal Executive Officer)	June 6, 2012	
/s/ John K. Penver John K. Penver	Chief Financial Officer (Principal Financial and Accounting Officer)	June 6, 2012	
/s/ Benjamin L. Scott Benjamin L. Scott	Chairman of the Board, Director	June 6, 2012	
/s/ Ake Almgren Ake Almgren	Director	June 6, 2012	
/s/ Rodney S. Bond Rodney S. Bond	Director	June 6, 2012	
/s/ James E. deVenny III James E. deVenny III	Director	June 6, 2012	
Robert S. Greenberg	Director		
/s/ Jan H. Lindelow Jan H. Lindelow	Director	June 6, 2012	
Stephen J. Clearman	Director		
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ACTIVE POWER, INC.

REGISTRATION STATEMENT ON FORM S-8

INDEX TO EXHIBITS

Exhibit	
No.	Description
4.1*	Restated Certificate of Incorporation (filed as Exhibit 3.1 to Active Power's Quarterly Report on Form 10-Q filed on April 30, 2012).
4.2*	Second Amended and Restated Bylaws (filed as Exhibit 3.2 to Active Power's Quarterly Report on Form 10-Q filed on April 30, 2012).
4.3*	Amendment to Second Amended and Restated Bylaws (filed as Exhibit 3.3 to Active Power's Quarterly Report on Form 10-Q filed on April 30, 2012).
<u>5.1</u>	Opinion of counsel as to legality of securities being registered.
23.1	Consent of Grant Thornton, LLP, Independent Registered Public Accounting Firm.
23.2	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm.
23.3	Consent of counsel (contained in Exhibit 5.1).
24.1	Power of Attorney (see page II-5).
99.1*	Active Power, Inc. 2010 Equity Incentive Plan, as amended (filed as Exhibit 10.1 to Active Power's Current Report on Form 8-K filed on May 23, 2012).

^{*} Incorporated by reference to the indicated filing.

June 6, 2012

Active Power, Inc. 2128 W. Braker Lane, BK12 Austin, Texas 78758

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

We have examined the registration statement on Form S-8 to be filed by you with the Securities and Exchange Commission on or about June 6, 2012 (the "Registration Statement") in connection with the registration under the Securities Act of 1933, as amended, of 8,500,000 shares of your Common Stock (the "Shares") reserved for issuance under the 2010 Equity Incentive Plan (the "Plan"). As your legal counsel, we have examined the proceedings taken and proposed to be taken in connection with the issuance, sale and payment of consideration for the Shares to be issued under the Plan.

It is our opinion that, when issued and sold in compliance with the applicable prospectus delivery requirements and in the manner referred to in the Plan and pursuant to the agreements that accompany the Plan, and upon completion of the actions being taken or proposed to be taken to permit such transactions to be carried out in accordance with the securities laws of the various states where required, the Shares, when issued and sold in the manner described under the Plan and the agreements that accompany the Plan, will be legally and validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Registration Statement and further consent to the use of our name wherever appearing in the Registration Statement, including any Prospectus constituting a part thereof, and any amendments thereto.

Sincerely,

/s/ Wilson Sonsini Goodrich & Rosati

WILSON SONSINI GOODRICH & ROSATI Professional Corporation

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

We have issued our reports dated March 1, 2012 with respect to the consolidated financial statements and the internal control over financial reporting included in the Annual Report on Form 10-K for the year ended December 31, 2011of Active Power, Inc., which are incorporated by reference in this Registration Statement. We consent to the incorporation by reference in the Registration Statement of the aforementioned reports.

/s/ Grant Thornton, LLP Grant Thornton, LLP

Dallas, Texas June 6, 2012

EXHIBIT 23.2

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement (Form S-8) pertaining to the 2010 Equity Incentive Plan of Active Power. Inc. of our report dated March 4, 2010, with respect to the consolidated financial statements of Active Power, Inc., for the year ended December 31, 2009 included in its Annual Report (Form 10-K) for the year ended December 31, 2011, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP Ernst & Young LLP

Austin, Texas June 6, 2012