

(Full title of the plans)

Nathan Mazurek

Chairman and Chief Executive Officer

400 Kelby Street, 9th Floor, Fort Lee, New Jersey 07024

(212) 867-0700

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

With a copy to:

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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.

Large accelerated filer Accelerated filer Non-accelerated filer (Do not check if a smaller reporting company)
Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered (1)	Proposed maximum offering price per share (2)	Proposed maximum aggregate offering price (3)	Amount of registration fee
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to stock option awards outstanding under the 2009 Equity Incentive Plan	118,400	\$15.07 (2)	\$1,784,288.00	\$229.82
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to stock option awards outstanding under the 2011 Long-Term Incentive Plan	248,000	\$7.46 (2)	\$1,850,080.00	\$238.29
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to the 2011 Long-Term Incentive Plan	333,600	\$8.45 (3)	\$2,818,920.00	\$363.08
Total	700,000		\$6,453,288.00	\$831.18

- (1) Pursuant to Rule 416 under the Securities Act of 1933, as amended, we are also registering an indeterminable number of shares of common stock that may be issued in connection with stock splits, stock dividends, recapitalizations or similar transactions.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(h) under the Securities Act of 1933, as amended, and based upon the weighted average price at which such options may be exercised.
- (3) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) and (h) under the Securities Act of 1933, as amended. The fee is calculated on the basis of the average of the high and low sale prices for the registrant's Common Stock as reported on the NASDAQ Stock Market on June 16, 2014.

EXPLANATORY NOTE

This registration statement registers 118,400 shares of common stock, par value \$0.001 per share (“Common Stock”), of Pioneer Power Solutions, Inc. (the “Registrant”) underlying options previously granted under the Pioneer Power Solutions, Inc. 2009 Equity Incentive Plan (the “2009 Plan”), 248,000 shares of Common Stock underlying options previously granted under the 2011 Long-Term Incentive Plan (the “2011 Plan,” and together with the 2009 Plan, the “Plans”) and 333,600 shares of Common Stock reserved for issuance under the 2011 Plan.

This Registration Statement also includes a prospectus (which we refer to as the reoffer prospectus) prepared in accordance with General Instruction C of Form S-8 and in accordance with the requirements of Part I of Form S-3. The reoffer prospectus may be used for reofferings and resales of certain of the shares of our common stock listed above that may be deemed to be “control securities” and/or “restricted securities” under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder. These are shares that were or may be acquired by our officers, directors and affiliates, or that were acquired by our employees or consultants, under an employee benefit plan. Such officers, directors, affiliates, employees and consultants are the selling stockholders identified in the reoffer prospectus.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The document(s) containing the information specified in Part I will be sent or given to employees as specified by Rule 428(b)(1) of the Securities Act of 1933, as amended. Such documents are not being filed with the Securities and Exchange Commission either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act of 1933, as amended.

REOFFER PROSEPECTUS

Pioneer Power Solutions, Inc.

257,800 Shares of Common Stock

This reoffer prospectus relates to shares of common stock of Pioneer Power Solutions, Inc. that may be reoffered or resold from time to time by the stockholders identified in this reoffer prospectus and that have been acquired or that may be acquired under our 2009 Equity Incentive Plan and our 2011 Long-Term Incentive Plan (the “Plans”). This prospectus covers up to 257,800 shares of common stock issuable upon the exercise of currently outstanding options.

The selling stockholders may sell shares of common stock from time to time in the principal market on which our common stock is traded at the prevailing market price or in privately negotiated transactions. See “Plan of Distribution” which begins on page 7.

We will not receive any of the proceeds from the sale of common stock by the selling stockholders. However, we will generate proceeds in the event of an exercise of the options by the selling stockholders. We intend to use those proceeds, if any, for general corporate purposes. We will pay the expenses of registering these shares.

Our common stock is listed on the Nasdaq Capital Market under the symbol “PPSI.” On June 18, 2014, the last reported sale price of our common stock as reported on the Nasdaq Capital Market was \$8.31 per share.

We may amend or supplement this reoffer prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus, the information incorporated by reference herein and any amendments or supplements carefully before you make your investment decision.

Investing in our common stock is highly speculative and involves a high degree of risk. You should carefully consider the risks and uncertainties in the section entitled "Risk Factors" beginning on page 4 of this reoffer prospectus before making a decision to purchase our stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this reoffer prospectus is June 19, 2014.

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ABOUT THIS PROSPECTUS

You should rely only on the information contained in this prospectus or incorporated by reference in this prospectus and in any applicable prospectus supplement. Neither we nor the selling stockholders have authorized anyone to provide you with different information. We and the selling stockholders take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The information contained in this prospectus, any applicable prospectus supplement and the documents incorporated by reference herein or therein are accurate only as of the date such information is presented. Our business, financial condition, results of operations and prospects may have changed since that date. You should also read this prospectus together with the additional information described under the headings “Incorporation of Certain Information by Reference” and “Where You Can Find More Information.” This prospectus may be supplemented from time to time to add, update or change information in this prospectus. Any statement contained in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in such prospectus supplement modifies or supersedes such statement. Any statement so modified will be deemed to constitute a part of this prospectus only as so modified, and any statement so superseded will be deemed not to constitute a part of this prospectus.

The selling stockholders are offering the common stock only in jurisdictions where such issuances are permitted. The distribution of this prospectus and the issuance of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the issuance of the common stock and the distribution of this prospectus outside the United States. This prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, the common stock offered by this prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

The registration statement containing this prospectus, including the exhibits to the registration statement, provides additional information about us and the securities offered under this prospectus. The registration statement, including the exhibits, can be read on the Securities and Exchange Commission's website or at the Securities and Exchange Commission's offices mentioned under the heading "Where You Can Find More Information."

PROSPECTUS SUMMARY

This summary provides an overview of selected information contained elsewhere or incorporated by reference in this prospectus and does not contain all of the information you should consider before investing in our common stock. You should carefully read the prospectus, the information incorporated by reference and the registration statement of which this prospectus is a part in their entirety before investing in our common stock, including the information discussed under “Risk Factors” in this prospectus and the documents incorporated by reference and our financial statements and notes thereto that are incorporated by reference in this prospectus. As used in this prospectus, unless the context otherwise indicates, the terms “we,” “our,” “us,” or “the Company” refer to Pioneer Power Solutions, Inc., and, where appropriate, its consolidated subsidiaries.

Overview

We manufacture specialty electrical transmission and distribution equipment and provide a broad range of custom-engineered and general purpose solutions for applications in the utility, industrial and commercial markets. We are headquartered in Fort Lee, New Jersey and operate from eight additional locations in the U.S., Canada and Mexico for manufacturing, centralized distribution, engineering, sales and administration.

Our largest customers, which include a number of recognized national and regional utilities, industrial companies and engineering, procurement and construction firms, are located in North America. In addition, we sell our products through hundreds of electrical distributors served by our network of stocking locations throughout the U.S. and Canada. We intend to grow our business, both through acquisitions and internal product development, by increasing the scope of highly-engineered solutions we offer our customers for their specific electrical applications.

Corporate History

We were originally formed in the State of Nevada in 2008. On November 30, 2009, we merged with and into Pioneer Power Solutions, Inc., a Delaware corporation, for the sole purpose of changing our state of incorporation from Nevada to Delaware and changing our name to “Pioneer Power Solutions, Inc.” On September 24, 2013, we completed an underwritten public offering and our common stock began trading on the Nasdaq Capital Market under the symbol PPSI.

Our principal executive offices are located at 400 Kelby Street, 9th Floor, Fort Lee, New Jersey, 07024. Our telephone number is (212) 867-0700. Our website address is <http://www.pioneerpowersolutions.com>. Information on or accessed through our website is not incorporated into this prospectus and is not a part of this prospectus.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties and all other information contained or incorporated by reference in this prospectus, including the risks and uncertainties discussed under “Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, which is incorporated herein by reference, as updated or superseded by the risks and uncertainties described under similar headings in the other documents that are filed after the date hereof and incorporated by reference into this prospectus or any prospectus supplement. All of these “Risk Factors” are incorporated by reference herein in their entirety. These risks and uncertainties are not the only ones facing us. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations. The trading price of our common stock could decline due to the occurrence of any of these risks, and investors could lose all or part of their investment. In assessing these risks, investors should also refer to the information contained or incorporated by reference in our other filings with the Securities and Exchange Commission.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference contain “forward-looking statements,” which include information relating to future events, future financial performance, strategies, expectations, competitive environment and regulation. Words such as “may,” “should,” “could,” “would,” “predicts,” “potential,” “continue,” “expects,” “anticipates,” “intends,” “plans,” “believes,” “estimates,” and similar expressions, as well as statements in future tense, identify forward-looking statements. Forward-looking statements should not be read as a guarantee of future performance or results and will probably not be accurate indications of when such performance or results will be achieved. Forward-looking statements are based on information we have when those statements are made or our management’s good faith belief as of that time with respect to future events, and are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- General economic conditions and their effect on demand for electrical equipment, particularly in the commercial construction market, but also in the power generation, industrial production, data center, oil and gas, marine and infrastructure industries.
- The effects of fluctuations in sales on our business, revenues, expenses, net income, earnings per share, margins and profitability.
- Many of our competitors are better established and have significantly greater resources, and may subsidize their competitive offerings with other products and services, which may make it difficult for us to attract and retain customers.
- We depend on Hydro-Quebec Utility Company and Siemens Industry, Inc. for a large portion of our business, and any change in the level of orders from Hydro-Quebec Utility Company or Siemens Industry, Inc., could have a significant impact on our results of operations.
- The potential loss or departure of key personnel, including Nathan J. Mazurek, our chairman, president and chief executive officer.
- Our ability to expand our business through strategic acquisitions.
- Our ability to integrate acquisitions and related businesses.
-

Our ability to generate internal growth, maintain market acceptance of our existing products and gain acceptance for our new products.

- Unanticipated increases in raw material prices or disruptions in supply could increase production costs and adversely affect our profitability.
- Restrictive loan covenants and/or our ability to repay or refinance debt under our credit facilities could limit our future financing options and liquidity position and may limit our ability to grow our business.
- Our ability to realize revenue reported in our backlog.
- Operating margin risk due to competitive pricing and operating efficiencies, supply chain risk, material, labor or overhead cost increases, interest rate risk and commodity risk.
- Strikes or labor disputes with our employees may adversely affect our ability to conduct our business.
- A majority of our revenue and a significant portion of our expenditures are derived or spent in Canadian dollars. However, we report our financial condition and results of operations in U.S. dollars.

As a result, fluctuations between the U.S. dollar and the Canadian dollar will impact the amount of our revenues and earnings.

- The impact of geopolitical activity on the economy, changes in government regulations such as income taxes, climate control initiatives, the timing or strength of an economic recovery in our markets and our ability to access capital markets.
- Our chairman controls a majority of our combined voting power, and may have, or may develop in the future, interests that may diverge from yours.
- Future sales of large blocks of our common stock may adversely impact our stock price.
- The liquidity and trading volume of our common stock.

You should review carefully the section entitled “Risk Factors” beginning on page 4 of this prospectus for a discussion of these and other risks that relate to our business and investing in our common stock. The forward-looking statements contained or incorporated by reference in this prospectus are expressly qualified in their entirety by this cautionary statement. We do not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

USE OF PROCEEDS

We will not receive any proceeds from the sale of common stock by the selling stockholders.

All of the shares covered by this prospectus are issuable upon exercise of options to purchase our common stock. As such, if a selling stockholder exercises all or any portion of its options, we will receive the aggregate exercise price paid by such selling stockholder in connection with any such option exercise. We intend to use those proceeds, if any, for general corporate purposes.

SELLING STOCKHOLDERS

This reoffer prospectus relates to the reoffer and resale of shares issued or that may be issued to the selling stockholders listed below, or future selling stockholders, under the Plans. Each of the transactions by which the selling stockholders acquired the securities covered by this prospectus was exempt under the registration provisions of the Securities Act of 1933, as amended.

Executive officers, directors, employees and consultants, their family members, trusts for their benefit, or entities that they own, that acquire common stock under the Plans may be added to the selling stockholder list below by a prospectus supplement filed with the Securities and Exchange Commission. The number of shares to be sold by any selling stockholder under this prospectus also may be increased or decreased by a prospectus supplement. Although a person’s name is included in the table below, neither that person nor we are making an admission that the named person is our “affiliate.”

The following table sets forth, as of June 19, 2014, the number of shares beneficially owned by each current selling stockholder who is an executive officer or director. The number of shares in the column “Number of Shares Beneficially Owned Prior to the Offering” represents the total number of shares that a selling stockholder currently owns or has the right to acquire within sixty (60) days of June 19, 2014. The number of shares in the column “Shares Which May be Offered” represents all of the shares that a selling stockholder may offer under this reoffer prospectus, and includes shares issuable upon the exercise of options that have not yet vested and are not included in the column “Number of Shares Beneficially Owned Prior to the Offering.” The table and footnotes assume that the selling stockholders will sell all of the shares listed in the column “Shares Which May be Offered.” However, because the selling stockholders may sell all or some of their shares under this reoffer prospectus from time to time, or in another permitted manner, we cannot assure you as to the actual number of shares that will be sold by the selling stockholders or that will be held by the selling stockholders after completion of any sales. We do not know how long the selling stockholders will hold the shares before selling them. Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended. The selling stockholders have not had a material relationship with us

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within the past three years other than as set forth in the column "Position" in the table below or as a result of their acquisition of our shares or other securities.

Selling Stockholder	Position	Number of Shares Beneficially Owned Prior to the Offering (1)	Shares Which May be Offered (2)	Shares Beneficially Owned After Offering	Percentage of Common Stock Beneficially Owned After Offering (1) (2)
Nathan J. Mazurek	President, Chief Executive Officer and Chairman	4,811,800 (3)	123,800	4,760,000	64.1%
Andrew Minkow	Chief Financial Officer, Secretary, Treasurer and Director	86,501 (4)	105,000	34,168	*
Thomas Klink	Director, President of Jefferson Electric, Inc.	303,655 (5)	10,400	297,255	4.0%
Yossi Cohn	Director	2,800 (6)	3,800	-	-
David J. Landes	Director	4,762,800 (7)	3,800	4,760,000	64.5%
Ian Ross	Director	2,400 (6)	3,400	-	-
David Tesler	Director	2,800 (6)	3,800	-	-
Jonathan Tulkoff	Director	2,800 (6)	3,800	-	-

* Less than 1%.

- (1) Shares of common stock beneficially owned and the respective percentages of beneficial ownership of common stock assumes the exercise of all options, warrants and other securities convertible into common stock beneficially owned by such person currently exercisable or exercisable within 60 days of June 19, 2014. Shares issuable pursuant to the exercise of stock options and warrants exercisable within 60 days are deemed outstanding and held by the holder of such options or warrants for computing the percentage of outstanding common stock beneficially owned by such person, but are not deemed outstanding for computing the percentage of outstanding common stock beneficially owned by any other person.
- (2) Assumes the sale of all shares of common stock registered hereunder, which amount is comprised entirely of shares issuable upon the exercise of outstanding stock options. Does not constitute a commitment to sell any or all of the stated number of shares of common stock. The number of shares offered shall be determined from time to time by each selling stockholder at their sole discretion.
- (3) Nathan J. Mazurek is the majority stockholder and a control person of Provident Canada Corp., the general partner of Provident Pioneer Partners, L.P., and, as such, has sole voting and investment power over 4,560,000 shares of common stock held by Provident Pioneer Partners, L.P. and a currently exercisable warrant to purchase up to 200,000 shares of common stock at an exercise price of \$16.25 per share held by Provident Pioneer Partners, L.P. In addition, includes 51,800 shares subject to stock options which are exercisable within 60 days of June 19, 2014.
- (4)

Includes (i) 4,168 shares of common stock, (ii) a currently exercisable warrant to purchase up to 30,000 shares of common stock at an exercise price of \$10.00 per share, and (iii) 52,333 shares subject to stock options which are exercisable within 60 days of June 19, 2014.

(5) Includes (i) 97,255 shares of common stock, (ii) a currently exercisable warrant to purchase up to 200,000 shares of common stock at an exercise price of \$16.25 per share and (iii) 6,400 shares subject to stock options which are exercisable within 60 days of June 19, 2014.

(6) Comprised of shares subject to stock options which are exercisable within 60 days of June 19, 2014.

(7) David J. Landes is the minority stockholder and a control person of Provident Canada Corp., the general partner of Provident Pioneer Partners, L.P., and, as such, has beneficial ownership of the 4,560,000 shares of common stock held by Provident Pioneer Partners, L.P. and the currently exercisable warrant to

purchase up to 200,000 shares of common stock at an exercise price of \$16.25 per share held by Provident Pioneer Partners, L.P. In addition, includes 2,800 shares subject to stock options which are exercisable within 60 days of June 19, 2014.

PLAN OF DISTRIBUTION

The selling stockholders may, from time to time, sell any or all of their shares of common stock on any stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. The selling stockholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
 - an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

If the selling stockholder effects such transactions by selling shares of our common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholder or commissions from purchasers of our common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved).

From time to time, one or more of the selling stockholders may distribute, devise, gift, pledge, hypothecate or grant a security interest in some or all of the shares of common stock owned by them. Any such distributees, devisees or donees will be deemed to be selling stockholders. Any such pledgees, secured parties or persons to whom the securities have been hypothecated will, upon foreclosure in the event of default, be deemed to be selling stockholders.

The selling stockholder and any broker-dealer participating in the distribution of our common stock may be deemed to be “underwriters” within the meaning of the Securities Act of 1933, as amended, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act of 1933, as amended. At the time a particular offering of the securities is made, a prospectus supplement, if required, will be distributed which will set forth the aggregate amount of securities being

offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholder and any discounts, commissions or concessions allowed, reallocated or paid to broker-dealers.

The selling stockholder may choose not to sell any or may choose to sell less than all of our common stock registered pursuant to the registration statement, of which this reoffer prospectus forms a part.

The selling stockholder and any other person participating in such distribution will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, including, without limitation, Regulation M, which may limit the timing of purchases and sales of any of the shares of common stock by the selling stockholder and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of our common stock.

We will pay the expenses of the registration of our common stock sold by the selling stockholders, including, without limitation, Securities and Exchange Commission filings fees, compliance with state securities or “blue sky” laws; provided, however, that the selling stockholder will pay all underwriting discounts and selling commissions, if any. As and when we are required to update this reoffer prospectus, we may incur additional expenses.

Once sold under the registration statement, of which this reoffer prospectus forms a part, our common stock will be freely tradable in the hands of persons other than our affiliates. We have notified the selling stockholders of the need to deliver a copy of this reoffer prospectus in connection with any sale of the shares.

In order to comply with certain state securities laws, if applicable, the shares may be sold in such jurisdictions only through registered or licensed brokers or dealers. In certain states, the shares may not be sold unless the shares have been registered or qualified for sale in such state or an exemption from regulation or qualification is available and is complied with. Sales of shares must also be made by the selling stockholders in compliance with all other applicable state securities laws and regulations.

In addition to any shares sold hereunder, selling stockholders may, at the same time, sell any shares of common stock owned by them in compliance with all of the requirements of Rule 144, regardless of whether such shares are covered by this reoffer prospectus.

LEGAL MATTERS

Haynes and Boone, LLP, New York, New York, has passed upon the validity of the shares of our common stock offered by the selling stockholders under this prospectus.

EXPERTS

The financial statements as of December 31, 2013 and 2012 and for the years ended December 31, 2013 and 2012 incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2013 have been audited by Richter LLP, an independent registered public accounting firm, as stated in their report appearing therein, and are incorporated by reference in reliance upon the report of such firm, given upon their authority as experts in auditing and accounting.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The Securities and Exchange Commission allows us to “incorporate by reference” the information we have filed with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this prospectus, and later information that we file with the Securities and Exchange Commission will automatically update and supersede this information. We incorporate by reference the documents listed below and any future documents we file with the Securities and Exchange Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, subsequent to the date of this prospectus and prior to the termination of the offering (excluding, in either case, information furnished pursuant to Items 2.02 and 7.01 of Form 8-K):

- Our Annual Report on Form 10-K for the year ended December 31, 2013, filed with the Securities and Exchange Commission on March 14, 2014;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014, filed with the Securities and Exchange Commission on May 15, 2014;
- Our Current Report on Form 8-K, filed with the Securities and Exchange Commission on March 18, 2014;
- Our Current Report on Form 8-K, filed with the Securities and Exchange Commission on May 16, 2014;
- Our Current Report on Form 8-K, filed with the Securities and Exchange Commission on June 17, 2014;
- Our Definitive Proxy Statement filed on April 21, 2014; and;
- The description of our common stock, which is contained in our registration statement on Form 8-A, filed with the Securities and Exchange Commission on September 17, 2013, as updated or amended in any amendment or report filed for such purpose.

All filings filed by us pursuant to the Securities Exchange Act of 1934, as amended, after the date of the initial filing of this amendment to the registration statement and prior to the effectiveness of such amendment (excluding information furnished pursuant to Items 2.02 and 7.01 of Form 8-K) shall also be deemed to be incorporated by reference into the prospectus.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended, and in accordance therewith file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission. Such reports, proxy statements and other information can be read and copied at the Securities and Exchange Commission's public reference facilities at 100 F Street, N.E., Washington, D.C. 20549, at prescribed rates. Please call the Securities and Exchange Commission at 1-800-732-0330 for further information on the operation of the public reference facilities. In addition, the Securities and Exchange Commission maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the Securities and Exchange Commission. The address of the Securities and Exchange Commission's website is www.sec.gov.

We make available free of charge on or through our website at www.pioneerpowersolutions.com, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, as soon as reasonably practicable after we electronically file such material with or otherwise furnish it to the Securities and Exchange Commission. Information on our website is not incorporated by reference in this prospectus and is not a part of this prospectus.

We will provide without charge to each person to whom a copy of this prospectus is delivered, upon written or oral request, a copy of any or all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus (other than an exhibit to these filings, unless we have specifically incorporated that exhibit by reference in this prospectus). Any such request should be addressed to us at: 400 Kelby Street, Fort Lee, New Jersey 07024, Attention: Andrew Minkow, Chief Financial Officer, or by phone at (212) 867-0700.

Pioneer Power Solutions, Inc.

257,800 Shares of Common Stock

PROSPECTUS

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference

The Securities and Exchange Commission allows us to “incorporate by reference” the information we have filed with it, which means that we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this registration statement, and later information that we file with the Securities and Exchange Commission will automatically update and supersede this information. We incorporate by reference the documents listed below and any future documents we file with the Securities and Exchange Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, subsequent to the date of this registration statement and prior to the termination of the offering (excluding, in either case, information furnished pursuant to Items 2.02 and 7.01 of Form 8-K):

- Our Annual Report on Form 10-K for the year ended December 31, 2013, filed with the Securities and Exchange Commission on March 14, 2014;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2014, filed with the Securities and Exchange Commission on May 15, 2014;
- Our Current Report on Form 8-K, filed with the Securities and Exchange Commission on March 18, 2014;
- Our Current Report on Form 8-K, filed with the Securities and Exchange Commission on May 16, 2014;
- Our Current Report on Form 8-K, filed with the Securities and Exchange Commission on June 17, 2014;
- Our Definitive Proxy Statement filed on April 21, 2014; and;
- The description of our common stock, which is contained in our registration statement on Form 8-A, filed with the Securities and Exchange Commission on September 17, 2013, as updated or amended in any amendment or report filed for such purpose.

All filings filed by us pursuant to the Securities Exchange Act of 1934, as amended, after the date of the initial filing of this amendment to the registration statement and prior to the effectiveness of such amendment (excluding information furnished pursuant to Items 2.02 and 7.01 of Form 8-K) shall also be deemed to be incorporated by reference into this registration statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 145 of the General Corporation Law of the State of Delaware provides, in general, that a corporation incorporated under the laws of the State of Delaware, as we are, may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than a derivative action by or in the right of the corporation) by reason of the fact that such person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner such person 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 such person's conduct was unlawful. In the case of a derivative action, a Delaware corporation may indemnify any such person against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the

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corporation, except that no indemnification will be made in respect of any claim, issue or matter as to which such person will have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery of the State of Delaware or any other court in which such action was brought determines such person is fairly and reasonably entitled to indemnity for such expenses.

Our certificate of incorporation and bylaws provide that we will indemnify our directors, officers, employees and agents to the extent and in the manner permitted by the provisions of the General Corporation Law of the State of Delaware, as amended from time to time, subject to any permissible expansion or limitation of such indemnification, as may be set forth in any stockholders' or directors' resolution or by contract. Any repeal or modification of these provisions approved by our stockholders will be prospective only and will not adversely affect any limitation on the liability of any of our directors or officers existing as of the time of such repeal or modification.

We are also permitted to apply for insurance on behalf of any director, officer, employee or other agent for liability arising out of his actions, whether or not the General Corporation Law of the State of Delaware would permit indemnification.

Item 7.Exemption from Registration Claimed.

Not applicable.

Item 8.Exhibits.**

Exhibit

No.	Description
4.1	Composite Certificate of Incorporation (Incorporated by reference to Exhibit 3.1 to Amendment No. 4 to the Registration Statement on Form S-1 of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on June 21, 2011).
4.2	Bylaws (Incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on December 2, 2009).
4.3	Form of common stock certificate (Incorporated by reference to Exhibit 4.7 to Registration Statement on Form S-1 of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on August 1, 2013
5.1*	Opinion of Haynes and Boone, LLP (Incorporated by reference to Exhibit 5.1 to Amendment No. 3 to Registration Statement on Form S-1 filed with the Securities and Exchange Commission on April 15, 2011)
23.1*	Consent of Richter LLP.
23.2*	Consent of Haynes and Boone, LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included in signature page)
99.1	Pioneer Power Solutions, Inc. 2009 Equity Incentive Plan (Incorporated by reference to Exhibit 10.8 to the Current Report on Form 8-K of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on December 7, 2009)
99.2	Form of 2009 Incentive Stock Option Agreement (Incorporated by reference to Exhibit 10.9 to the Current Report on Form 8-K of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on December 7, 2009).
99.3	Form of 2009 Non-Qualified Stock Option Agreement (Incorporated by reference to Exhibit 10.10 to the Current Report on Form 8-K of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on December 7, 2009).
99.4	Pioneer Power Solutions, Inc. 2011 Long-Term Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K of Pioneer Power Solutions, Inc. filed with the Securities and Exchange Commission on May 31, 2011).
99.5*	Form of 2011 Long-Term Incentive Plan Incentive Stock Option Agreement.
99.6*	Form of 2011 Long-Term Incentive Plan Non-Qualified Stock Option Agreement.

* Filed herewith.

Item 9. Undertakings.

The undersigned registrant hereby undertakes:

(a)(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 of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the 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 the 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;

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section 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 Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the 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.

(c)Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the 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

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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 Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant 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 Fort Lee, State of New Jersey, on June 19, 2014.

PIONEER POWER SOLUTIONS, INC.

By: /s/ Nathan J. Mazurek
 Name: Nathan J. Mazurek
 Title: Chief Executive Officer

Power of Attorney

Each person whose signature appears below hereby appoints each of Nathan J. Mazurek and Andrew Minkow, severally, acting alone and without the other, his or her true and lawful attorney-in-fact, with full power of substitution, and with the authority to execute in the name of each such person, any and all amendments (including without limitation, post-effective amendments) to this registration statement on Form S-8, to sign any and all additional registration statements relating to the same offering of securities as this registration statement, including any amendment to this registration statement for the purpose of registering additional shares in accordance with General Instruction E to Form S-8, and to file such registration statements with the Securities and Exchange Commission, together with any exhibits thereto and other documents therewith, necessary or advisable to enable the registrant to comply with the Securities Act of 1933, and any rules, regulations and requirements of the Securities and Exchange Commission in respect thereof, which amendments may make such other changes in the registration statement as the aforesaid attorney-in-fact executing the same deems appropriate.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Nathan J. Mazurek Nathan J. Mazurek	President, Chief Executive Officer and Chairman of the Board of Directors (principal executive officer)	June 19, 2014
/s/ Andrew Minkow Andrew Minkow	Chief Financial Officer, Secretary, Treasurer and Director (principal financial and accounting officer)	June 19, 2014
/s/ Thomas Klink Thomas Klink	Director, President of Jefferson Electric, Inc.	June 19, 2014
/s/ Yossi Cohn	Director	June 19, 2014

Yossi Cohn		
/s/ David J. Landes	Director	June 19, 2014
David J. Landes		
/s/ Ian Ross	Director	June 19, 2014
Ian Ross		
/s/ David Tesler	Director	June 19, 2014
David Tesler		
/s/ Jonathan Tulkoff	Director	June 19, 2014
Jonathan Tulkoff		