As filed with the Securities and Exchange Commission on June 13, 2013

Registration No. 333-

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

FORM S-8
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Pepco Holdings, Inc.
(Exact name of registrant as specified in its charter)

Delaware	52-2297449
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
701 Ninth Street, N.W. Washington, D.C.	20068
(Address of Principal Executive Offices)	(Zip Code)

Pepco Holdings, Inc. Retirement Savings Plan
(Full title of the plan)

Jane K. Storero
Vice President and Secretary
Pepco Holdings, Inc.
701 Ninth Street, N.W.
Washington, D.C.
(Name and address of agent for service)

(202) 872-2000
(Telephone number, including area code, of agent for service)

Indicate by check mark if the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company, as defined 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	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, $0.01 par value	5,000,000 (1)	$20.53 (2)	$102,650,000 (2)	$14,001.46

(1) Pursuant to Rule 416(a) under the Securities Act, the number of shares of common stock, par value $0.01 per share ("Common Stock"), of Pepco Holdings, Inc. (the "Registrant") registered hereby is subject to adjustment to prevent dilution resulting from a stock dividend, stock split, recapitalization or other similar transaction that results in an increase in the number of the outstanding shares of Common Stock.

(2) Estimated solely for purposes of calculating the amount of the registration fee pursuant to Rule 457(c) and (h)(1) under the Securities Act based on the average of the high and low sales prices per share of the Common Stock on June 10, 2013, as reported by the New York Stock Exchange.

EXPLANATORY NOTE

The Pepco Holdings, Inc. Retirement Savings Plan (the "Plan") established effective January 1, 2006, is an amalgam of, and accordingly is the successor to, the following plans:

(i) the Potomac Electric Power Company Savings Plan for Bargaining Unit Employees,

(ii) the Retirement Savings Plan for Management Employees (formerly the Potomac Electric Power Company Savings Plan for Exempt Employees), which was, in turn, a successor by merger to the Potomac Electric Power Company Savings Plan for Non-Bargaining Unit, Non-Exempt Employees,

(iii) the Conectiv Savings and Investment Plan, and

(iv) the Atlantic Electric 401(k) Savings and Investment Plan B.

Pursuant to General Instruction E to Form S-8 under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement is filed by the Registrant for the purpose of registering additional shares of Common Stock under the Plan. The number of shares available for issuance under the Plan was increased by 5,000,000 shares effective May 17, 2013. The Registration Statement registers the offering of the additional 5,000,000 shares of Common Stock available for issuance under the Plan.

The Shares of Common Stock registered pursuant to this Registration Statement are of the same class of securities as the 5,000,000 Shares of Common Stock registered for issuance under the Plan pursuant to the currently effective Registration Statement on Form S-8 (Registration No. 333-131371) filed on January 30, 2006 (the "Original Registration Statement"). The contents of the Original Registration Statement, including any amendments thereto or filings incorporated therein, are incorporated herein by this reference. Any items in the Original Registration Statement not expressly changed hereby shall be as set forth in the Original Registration Statement.

PART I

The document(s) containing the information specified in Part I of Form S-8 will be sent or given to participants as specified by Rule 428(b)(1) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant and the Plan, as applicable, with the Securities and Exchange Commission pursuant to the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are incorporated in this Registration Statement by reference:

(a) The Annual Report on Form 11-K of the Plan for the fiscal year ended December 31, 2011;

(b) The Annual Report on Form 10-K of the Registrant for the year ended December 31, 2012;

(c) The Quarterly Report on Form 10-Q of the Registrant for the quarter ended March 31, 2013;

(d) The Current Reports on Form 8-K of the Registrant, dated January 11, 2013, February 21, 2013, March 4, 2013, March 28, 2013 and May 17, 2013; and

(e) The description of the Common Stock set forth in the Registrant's Registration Statement on Form 8-A filed on July 23, 2002, pursuant to Section 12(b) of the Exchange Act, including any amendments or reports updating such description.

All documents filed by the Registrant and all documents filed by the Plan pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act on or subsequent to the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this Registration Statement shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in this Registration Statement or in any other subsequently filed document which also is or is deemed to be incorporated by reference in this Registration Statement modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

EXPERTS

The financial statements incorporated in this Registration Statement by reference to the Annual Report on Form 11-K of the Pepco Holdings, Inc. Retirement Savings Plan for the fiscal year ended December 31, 2011 have been so incorporated in reliance on the reports of Mitchell & Titus, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this registration statement by reference to the Annual Report on Form 10-K for the year ended December 31, 2012 have been so incorporated in reliance on the reports of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

Item 5. Interests of Named Experts and Counsel.

The validity of the securities offered hereby has been passed upon for the Registrant by Kevin C. Fitzgerald, who is regularly employed by the Registrant as its Executive Vice President and General Counsel. Mr. Fitzgerald beneficially owns 995 shares of Common Stock and 60,583 time-vested restricted stock units.

Item 6. Indemnification of Directors and Officers.

PHI's Restated Certificate of Incorporation provides, in accordance with Section 102(b)(7) of the Delaware General Corporation Law, or DGCL, that no director of PHI shall be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director for (i) any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) liability under Section 174 of the DGCL for unlawful payment of dividends or stock purchases or redemptions, or (iv) any transaction from which the director derived an improper personal benefit.

Under Section 145 of the DGCL, a corporation is permitted to 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, whether civil, criminal, administrative or investigative (other than action by or in the right of the corporation), by reason of the fact that the person is or was an officer, director, employee or agent of the corporation or is or was serving at the request of the corporation as an officer, director, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such proceeding: (i) if the person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation; and (ii) in the case of a criminal proceeding, the person had no reasonable cause to believe that his conduct was unlawful.

A corporation also is permitted to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to obtain a judgment in its favor by reason of the fact that the person is or was a director or officer against expenses (including attorney's fees) actually and reasonably incurred in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification is permitted with respect to any claim, issue or matter as to which the person is found liable to the corporation unless and to the extent that the Delaware Court of Chancery or the court in which the action or suit is brought determines that, despite the adjudication of liability, the person is fairly and reasonably entitled to indemnification for such expenses as the court shall deem proper.

Under the DGCL, a corporation must indemnify any present or former director or officer of the corporation who is successful on the merits or otherwise in the defense of any action, suit or proceeding against expenses (including attorneys' fees) actually and reasonably incurred by such person.

Item 8. Exhibits.

4.1	Restated Certificate of Incorporation of the Registrant *
4.2	Bylaws of the Registrant, as amended **
5	Opinion of Kevin C. Fitzgerald, Esq. ***
23.1	Consent of Independent Registered Public Accounting Firm ***
23.2	Consent of Independent Registered Public Accounting Firm ***
23.3	Consent of Kevin C. Fitzgerald, Esq. (included in Exhibit 5 hereto)
24	Power of Attorney (included on signature page)

* Incorporated by reference to Exhibit 3.1 to the Registrant's Form 10-K, 3/13/2006.

** Incorporated by reference to Exhibit 3.6 to the Registrant's Form 10-K, 3/1/2013.

*** Filed herewith.

The Registrant undertakes to submit the Plan and any amendments thereto to the Internal Revenue Service (the "IRS") in a timely manner and will make all changes required by the IRS in order to qualify the Plan under Section 401 of the Internal Revenue Code.

Item 9. Undertakings.

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 the 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 Securities and Exchange Commission (the "Commission") pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent 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 1(i) and 1(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic 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 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.

The undersigned Registrant hereby undertakes that, for purposes of determining 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 each filing the 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 herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

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

SIGNATURES

The Registrant: 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 Washington, District of Columbia, on this 13th day of June, 2013.

PEPCO HOLDINGS, INC.

By: /s/ Joseph M. Rigby
Joseph M. Rigby
Chairman of the Board, President and
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each individual whose signature appears below constitutes and appoints Kevin C. Fitzgerald, Frederick J. Boyle and Jane K. Storero, and each of them, his or her true and lawful attorney-in-fact and agent with full power of substitution and re-substitution, for him or her, and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documentation in connection therewith, with the 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 enable the Registrant to comply with the provisions of the Securities Act and all requirements of the Commission, as fully to all intents and purposes as he might or could do in person, hereby ratifying all that each of the said attorney-in-fact and agents, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

PEPCO HOLDINGS, INC.
(Registrant)

June 13, 2013 — By: /s/ Joseph M. Rigby
Joseph M. Rigby
Chairman of the Board, President and
Chief Executive Officer

June 13, 2013 — By: /s/ Frederick J. Boyle
Frederick J. Boyle
Senior Vice President and Chief Financial Officer
(principal financial officer)

June 13, 2013 — By: /s/ Ronald K. Clark
Ronald K. Clark
Vice President and Controller
(principal accounting officer)

Signature	Title	Date
/s/ Jack B. Dunn, IV Jack B. Dunn, IV	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ H. Russell Frisby, Jr. H. Russell Frisby, Jr.	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Terence C. Golden Terence C. Golden	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Frank O. Heintz Frank O. Heintz	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Patrick T. Harker Patrick T. Harker	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Barbara J. Krumsiek Barbara J. Krumsiek	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ George F. MacCormack George F. MacCormack	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Lawrence C. Nussdorf Lawrence C. Nussdorf	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Patricia A. Oelrich Patricia A. Oelrich	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Frank K. Ross Frank K. Ross	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Pauline A. Schneider Pauline A. Schneider	Director, Pepco Holdings, Inc.	June 13, 2013
/s/ Lester P. Silverman Lester P. Silverman	Director, Pepco Holdings, Inc.	June 13, 2013

The Plan: Pursuant to the requirements of the Securities Act of 1933, the Plan Administrator of the Pepco Holdings, Inc. Retirement Savings Plan has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Washington, District of Columbia, on this 13th day of June, 2013.

PEPCO HOLDINGS, INC. RETIREMENT SAVINGS PLAN

June 13, 2013

By: /s/ Joseph M. Rigby
Joseph M. Rigby
Chairman, Administrative Board

Index to Exhibits Filed Herewith

Exhibit Number	Description
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