

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D. C. 20549

FORM 11-K

ANNUAL REPORT

Pursuant to Section 15(d) of the
Securities Exchange Act of 1934

For the Fiscal Year Ended December 30, 2005

ATLANTIC ELECTRIC 401(K) SAVINGS AND INVESTMENT PLAN - B
(Full title of plan)

PEPCO HOLDINGS, INC.
(Name of issuer of securities held pursuant to the plan)

701 NINTH STREET, N.W.
WASHINGTON, D. C. 20068
(Address of principal executive office)

Atlantic Electric 401(k) Savings and Investment Plan - B

**Financial Statements and Supplemental Schedules
December 30, 2005 and 2004**

Atlantic Electric 401(k) Savings and Investment Plan - B

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December 30, 2005 and 2004

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* Other supplemental schedules required by 29 CFR 2520.103-10 of the Department of Labor's Rules and Regulations for Reporting and Disclosures under the Employee Retirement Income Security Act of 1974 have been omitted because they are not applicable.

Report of Independent Registered Public Accounting Firm

*To the Plan Administrator of the
Atlantic Electric 401(k) Savings and Investment Plan - B*

We have audited the accompanying statements of net assets available for benefits of the Atlantic Electric 401(k) Savings and Investment Plan - B (the Plan), as of December 30, 2005, and the related statement of changes in net assets available for benefits for the year then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of December 30, 2005, and the changes in its net assets available for benefits for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule H, line 4i - Schedule of Assets (Held at End of Year) as of December 30, 2005 and Schedule H, line 4(j) - Schedule of Reportable Transactions for the year ended December 30, 2005 are presented for the purpose of additional analysis and are not a required part of the basic financial statements but are supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental information is the responsibility of the Plan's management. The supplemental information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, are fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ Mitchell & Titus LLP

Washington, DC
June 27, 2006

Report of Independent Registered Public Accounting Firm

To the Participants and Administrator of the
Atlantic Electric 401(k) Savings and Investment Plan-B:

In our opinion, the accompanying statement of net assets available for benefits presents fairly, in all material respects, the net assets available for benefits of the Atlantic Electric 401(k) Savings and Investment Plan-B (the "Plan") at December 30, 2004 in conformity with accounting principles generally accepted in the United States of America. This financial statement is the responsibility of the Plan's management. Our responsibility is to express an opinion on this financial statement based on our audit. We conducted our audit of this statement in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statement is free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statement, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
Washington, DC
June 27, 2006

Atlantic Electric 401(k) Savings and Investment Plan - B
Statements of Net Assets Available for Benefits
December 30, 2005 and 2004

	2005	2004
Investments		
Cash	\$ 6,246	\$ 5,002
Investments, at fair value	56,553,962	53,866,643
Participant loans	<u>1,637,891</u>	<u>1,537,975</u>
Total investments	58,198,099	55,409,620
 Receivables		
Participant contributions	70,307	71,499
Employer contributions	<u>15,054</u>	<u>15,354</u>
Total receivables	85,361	86,853
 Net assets available for benefits	 <u>\$ 58,283,460</u>	 <u>\$ 55,496,473</u>

The accompanying notes are an integral part of these financial statements.

Atlantic Electric 401(k) Savings and Investment Plan - B
Statement of Changes in Net Assets Available for Benefits
Year Ended December 30, 2005

Additions

Participant contributions	\$ 3,268,913
Employer contributions	822,543
Interest income	98,067
Dividend income	2,152,469
Net appreciation in fair value of investments	554,661
Transfers from another plan	99,113
Total additions	<u>6,995,766</u>

Deductions

Benefits paid to participants	(4,205,604)
Administrative fees	<u>(3,175)</u>
Total deductions	<u>(4,208,779)</u>
Net increase	2,786,987
Net assets available for benefits, at beginning of year	<u>55,496,473</u>
Net assets available for benefits, at end of year	<u>\$58,283,460</u>

The accompanying notes are an integral part of these financial statements.

Atlantic Electric 401(k) Savings and Investment Plan - B

Notes to Financial Statements

December 30, 2005 and 2004

1. Description of Plan

General

The following description of the Atlantic Electric 401(k) Savings and Investment Plan - B (the "Plan"), a defined contribution plan, provides only general information. Participants should refer to the Plan document for a more comprehensive description of the Plan's provisions. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"). T. Rowe Price Trust Company ("T. Rowe Price") serves as the Plan's trustee.

Contributions

All full-time bargaining unit employees of Atlantic City Electric Company (the "Company"), a wholly owned subsidiary of Pepco Holdings, Inc. ("PHI"), are eligible to participate in the Plan. Additionally, any employee who is not a regular full-time employee shall be eligible to participate upon completion of 1,000 hours of service during the twelve consecutive month period, or if such employee does not complete 1,000 hours of service during the twelve month period, during a subsequent Plan year.

Employees may contribute up to 50 percent of base pay. Upon enrollment in the Plan, a participant may direct employee contributions in any of six investment options, which includes four mutual funds, one common/collective trust and the PHI Common Stock Fund. The tax savings portion of participant contributions (up to 6 percent of an employee's base pay) is matched by the Company at a rate of 50 percent not to exceed 3 percent of the employee's compensation. The Company's matching contributions are invested in the T. Rowe Price Stable Value Fund ("TRP Stable Value Fund"). Effective January 1, 2005, the Plan discontinued a provision that allowed employees who elected to invest in PHI's common stock and held the common stock for one year to receive an additional contribution of PHI's common stock equal to 15 percent of the participant's original contribution. At December 30, 2005 and 2004, zero and \$30,499, respectively, were the amounts of contributions included in the PHI Common Stock Fund that had not yet been in the Plan for the one year holding period.

Payment of Benefits

Benefits from the tax savings portion of the Plan can be withdrawn upon the attainment of age 59-1/2, retirement, separation from service, death or in special financial hardship situations. Distributions of a participant's account may be made in a lump sum cash payment or in regular installments over a fixed period with certain limitations stated in the Plan. Hardship withdrawals must be approved. After making a hardship withdrawal, a participant is prohibited from making before and after tax contributions for a period of six months.

Participant Accounts

Individual accounts are maintained for each of the Plan's participants to reflect the participant's share of the Plan's income (losses), the participant's and the Company's contributions, and the participant's loan, if applicable. Such allocations are based on participant earnings or account balances, as defined.

Atlantic Electric 401(k) Savings and Investment Plan - B

Notes to Financial Statements

December 30, 2005 and 2004

Vesting

Upon enrollment in the Plan, participants are fully vested at all times in all amounts held in their accounts.

Termination of Plan

Although it has not expressed any intent to do so, the Company has the right to terminate the Plan in whole or in part at any time for any reason.

Administration Fees

Certain professional fees and administrative expenses incurred in connection with the Plan are paid by the Company. The facilities of the Company are used by the Plan at no charge. Loan processing fees are paid by the participants and deducted from Plan assets.

Participant Loans

Participants may borrow from their fund accounts a minimum of \$1,000 up to a maximum equal to the lesser of \$50,000 or 50 percent of their account balance. Loan terms range from one to five years and up to fifteen years for the purchase of a primary residence. The loans are secured by the balance in the participant's account and bear interest at a rate commensurate with local prevailing rates as determined quarterly by the Plan Administrator. Principal and interest is paid ratably through weekly payroll deductions. A participant may pre-pay a loan at any time without penalty.

2. Summary of Significant Accounting Policies

Basis of Accounting

The financial statements of the Plan are prepared under the accrual basis of accounting.

Investment Valuation and Income Recognition

The Plan's investments are stated at fair value. Shares of registered investment companies' mutual funds are valued at quoted market prices which represent the net asset value of shares held by the Plan at year end. The carrying value of participant loans approximates fair value. Common stock is valued at closing price on its principal exchange; shares of common/collective trusts are valued at net asset value.

Purchases and sales of investments are recorded on the trade date. Interest income is accrued when earned. Dividend income is recorded on the ex-dividend date.

The Plan presents in the Statement of Changes in Net Assets Available for Benefits the net appreciation (depreciation) in the fair value of its investments, which consists of the realized gains or losses and the unrealized appreciation (depreciation) on the Plan's investments.

Payment of Benefits

Benefits are recorded when paid.

Contributions

Participants' contributions are recorded in the period of the related payroll deductions. The Company's matching contributions are recorded in the period of the related participants' contributions.

Atlantic Electric 401(k) Savings and Investment Plan - B

Notes to Financial Statements

December 30, 2005 and 2004

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires the Plan's management to make estimates and assumptions that affect the reported amounts in the financial statements. Such estimates include those regarding fair value. Actual results could differ from those estimates.

Risks and Uncertainties

The Plan provides for various investment options in any combination of common stocks, mutual funds and common/collective trusts that invest in bonds, fixed income securities and other investment securities. Investment securities are exposed to various risks, such as interest rate, market and credit risks. Due to the level of risk associated with certain investment securities and the level of uncertainty related to changes in the value of investment securities, it is at least reasonably possible that changes in risks in the near term could materially affect participants' account balances and the amounts reported in the Statements of Net Assets Available for Benefits.

3. Investments

Investments which exceed 5% of the Plan's assets at December 31, are as follows:

	2005	2004
TRP Stable Value Fund	\$ 19,955,058	\$ 16,644,634
Equity Income Fund	15,639,187	16,240,136
Equity Index Fund	13,872,272	14,720,372
Spectrum Growth Fund	4,586,178	4,260,705

During 2005, the Plan's investments (including investments bought, sold and held during the year) appreciated in value by \$554,661 as follows:

Registered investment companies' mutual funds	\$ 540,788
PHI common stock	13,873
Total	<u>\$ 554,661</u>

4. Nonparticipant-Directed Investments

Information about the net assets and the significant components of the changes in net assets relating to the nonparticipant-directed investments is as follows:

	2005	2004
Net assets		
TRP Stable Value Fund	\$ 19,955,058	\$ 16,644,634

Atlantic Electric 401(k) Savings and Investment Plan - B
Notes to Financial Statements
December 30, 2005 and 2004

2005

Changes in net assets

Contributions	\$ 1,713,976
Net loan activity	145,230
Interest income	50,541
Dividend income	776,477
Benefits paid to participants	(2,351,938)
Administrative fees	(998)
Net exchanges to participant-directed investments	2,945,561
Transfers from another Plan	31,575
Total	<u>\$ 3,310,424</u>

5. Tax Status

The Plan obtained its latest determination letter on October 9, 2003, in which the Internal Revenue Service stated that the Plan was in compliance with the applicable requirements of the Internal Revenue Code (IRC). The Plan has been amended since receiving the determination letter. However, the Company believes the Plan is designed and is currently being operated in compliance with the applicable requirements of the IRC.

6. Related Party Transactions

Certain Plan investments are shares of registered investment companies' mutual funds managed by T. Rowe Price. T. Rowe Price is the trustee as defined by the Plan; therefore, these transactions qualify as party-in-interest transactions.

Pepco Holdings, Inc., as the Plan sponsor, is a related party. Purchases and sales of PHI common stock were made during the year. The amount of PHI common stock included in Investments was \$560,100 and \$414,330 at December 30, 2005 and 2004, respectively.

In addition, participant loans are related party transactions.

7. Subsequent Event

In August 2005, an amendment was approved to merge the four existing PHI Savings Plans into a single Plan with Vanguard as the trustee and recordkeeper. In October 2005, amendments were approved to structure the plans with a single Master Plan and five sub plans (Management, Local 1900, Local 1238, Local 1307, Local 210 and Local 210-5). Further, the amendments 1) redefined the Plan year as a calendar year, January 1 through December 31; 2) provided immediate eligibility to part time employees working more than 20 hours per week; 3) increased contribution maximums to 65% of base salary, pre-tax or after-tax or any combination thereof; 4) allowed matching funds on after tax contributions; 5) added tax delinquencies to the list of hardship causes and removed "other withdrawals" from the hardship rules; 6) increased the maximum number of loans a participant can have from two to four; and 7) allowed for periodic partial post-retirement withdrawals. Also, in 2005 as part of the integration of all PHI Savings Plans, the Investment

Atlantic Electric 401(k) Savings and Investment Plan - B
Notes to Financial Statements
December 30, 2005 and 2004

Committee approved a new list of investment options. The options eliminated four of the five T. Rowe Price investment funds and replaced them with: 1) six age-based target retirement funds; 2) nine core funds including PHI Common Stock Fund and a Stable Value Fund; and, 3) fifty-one other investment funds available through a mutual fund window. These amendments became effective January 13, 2006.

Supplemental Schedules

Atlantic Electric 401(k) Savings and Investment Plan - B
EIN#: 52-2297449, PLAN#: 003
Schedule H - Line 4(i)
Schedule of Assets (Held at End of Year)
December 30, 2005

(a)	(b)	(c)	(d)	(e)
	Identity of Issue	Investment Type	Cost	Current Value
	T. Rowe Price			
*	Stable Value Fund	Common/Collective Trust	\$ 19,955,058	\$ 19,955,058
*	Equity Income Fund	Mutual Fund	16,023,713	15,639,187
*	Equity Index Fund	Mutual Fund	13,475,732	13,872,272
*	Spectrum Growth Fund	Mutual Fund	4,264,258	4,586,178
*	International Stock Fund	Mutual Fund	1,716,390	1,941,167
*	Pepco Holdings, Inc.	Common Stock	554,310	560,100
*	Participant Loans	Various loans ranging from 5.34% to 9.88% maturing in 1 to 5 years		1,637,891
	Cash	Cash		6,246
				<u>\$ 58,198,099</u>

* Party-in-interest, for which a statutory exemption exists.

Atlantic Electric 401(k) Savings and Investment Plan - B
EIN#: 52-2297449, PLAN#: 003
Schedule H - Line 4(j)
Schedule of Reportable Transactions*
December 30, 2005

* Non-participant directed transactions or series of transactions in excess of 5 percent of the current value of the Plan's assets as of the beginning of the Plan year as defined in Section 2520.103-6 of the Department of Labor Rules and Regulations for Reporting and Disclosure under ERISA.

Identity of Party Involved	Description of Assets	Purchase Price	Selling Price	Historical Cost	Current Value of Asset on Transaction Date	Historical Gain/ Loss
T. Rowe Price	TRP Stable Value Fund Purchases	\$ 6,022,977	\$ -	\$ 6,022,977	\$ 6,022,977	\$ -

Exhibits:

Exhibit 23.1 Consent of Independent Registered Public Accounting Firm - Filed herewith.

Exhibit 23.2 Consent of Independent Registered Public Accounting Firm - Filed herewith.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the Administrative Board has duly caused this annual report to be signed on its behalf by the undersigned, thereunto duly authorized.

ATLANTIC ELECTRIC 401(K) SAVINGS
AND INVESTMENT PLAN - B

By: /s/ Dennis R. Wraase
Dennis R. Wraase, Chairman
Administrative Board

Date: June 27, 2006

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement of Pepco Holdings, Inc. on Form S-8 (File No. 333-131371) of our report dated June 27, 2006 relating to the statement of net assets available for benefits as of December 30, 2005, and the statement of changes in net assets available for benefits for the year ended December 30, 2005 and the related supplemental Schedule H, line 4i - Schedule of Assets (Held at End of Year) at December 30, 2005, and Schedule H, line 4j - Schedule of Reportable Transactions for the year ended December 30, 2005 which report appears in the December 30, 2005 annual report on Form 11-K of the Atlantic Electric 401(k) Savings and Investment Plan - B.

/s/ Mitchell & Titus LLP

Washington, DC
June 27, 2006

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-131371) of Pepco Holdings, Inc. of our report dated June 27, 2006 relating to the financial statements of the Atlantic Electric 401(k) Savings and Investment Plan-B, which appears in this Form 11-K.

/s/ PricewaterhouseCoopers LLP
Washington, DC
June 27, 2006