
SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549



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FORM 11-K

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Section

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ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2007

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number 1-13828

- A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

MEMC RETIREMENT SAVINGS PLAN

- B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

MEMC ELECTRONIC MATERIALS, INC.

501 PEARL DRIVE (CITY OF O' FALLON), ST. PETERS, MISSOURI

(Address of principal executive offices)

63376

(Zip Code)

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Explanatory Note

During the plan year ended December 31, 2006 of the MEMC Retirement Savings Plan (the "401 (k) Plan"), MEMC Electronic Materials, Inc. (MEMC) was required to suspend the use of the Form S-8 registration statement (No. 333-19159) for the 401(k) Plan. MEMC had to suspend purchases, but no sales, of the MEMC shares by participants in the 401(k) Plan (a blackout period). The blackout period only prevented participants from making additional investments in MEMC's common stock fund through the 401(k) Plan. Participants were unable to buy MEMC common stock through the 401(k) Plan during the blackout period, but participants were able to sell MEMC common stock held in their 401(k) Plan accounts during the blackout period (by reallocating assets out of the MEMC common stock fund in their 401(k) Plan account to another investment alternative.)

The blackout period was in connection with the previously announced restatement of MEMC's financial statements for the quarterly periods ended March 31, 2005 and June 30, 2005. As of September 19, 2006, MEMC had filed all required Forms 10-Q and 10-K with the Securities and Exchange Commission and the blackout period was terminated, thereby allowing purchases of MEMC common stock by participants in the 401(k) Plan.

MEMC RETIREMENT SAVINGS PLAN

Financial Statements and Supplemental Schedule

December 31, 2007 and 2006

(With Report of Independent Registered Public Accounting Firm Thereon)

MEMC RETIREMENT SAVINGS PLAN

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Report of Independent Registered Public Accounting Firm

Participants of the MEMC Retirement Savings Plan and
The Board of Directors of MEMC Electronic Materials, Inc.

We have audited the accompanying statements of net assets available for benefits of the MEMC Retirement Savings Plan as of December 31, 2007 and 2006, and the related statements of changes in net assets available for benefits for the years 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 audits.

We conducted our audits 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. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide 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 MEMC Retirement Savings Plan as of December 31, 2007 and 2006, and the changes in its net assets available for benefits for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule of assets (held at end of year) is presented for the purpose of additional analysis and is not a required part of the basic financial statements but is 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. This supplemental schedule is the responsibility of the Plan's management. The supplemental schedule has been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.



St. Louis, Missouri
June 27, 2008

MEMC RETIREMENT SAVINGS PLAN
Statements of Net Assets Available for Benefits
December 31, 2007 and 2006

	2007	2006
Assets:		
Investments at fair value:		
Non-interest bearing cash	\$ 28,402	\$ 31,267
Money market funds	657,284	1,576,503
Shares of registered investment companies	75,580,807	61,290,219
MEMC Electronic Materials, Inc. common stock	33,326,853	23,468,022
Common/collective trusts	72,240,814	69,602,012
Participant loans	7,625,573	7,069,131
Total investments	189,459,733	163,037,154
Receivables:		
Participant	247,333	218,210
Employer	162,869	162,947
Total receivables	410,202	381,157
Net assets available for benefits at fair value	189,869,935	163,418,311
Adjustments from fair value to contract value for fully benefit-responsive investment contracts	446,414	376,611
Net assets available for benefits	\$ 190,316,349	\$ 163,794,922

MEMC RETIREMENT SAVINGS PLAN

Statements of Changes in Net Assets Available for Benefits

Years Ended December 31, 2007 and 2006

	<u>2007</u>	<u>2006</u>
Additions:		
Earnings from investments:		
Interest income	\$ 488,948	\$ 2,205,277
Dividend income	8,798,135	3,340,315
Realized and unrealized gains	<u>18,841,963</u>	<u>19,973,320</u>
Total income from investments	28,129,046	25,518,912
Contributions:		
Employer	5,182,319	4,845,947
Participants	7,832,377	7,355,104
Participant rollovers	<u>486,021</u>	<u>556,164</u>
Total contributions	<u>13,500,717</u>	<u>12,757,215</u>
Total additions	41,629,763	38,276,127
Deductions:		
Benefit payments to participants	15,082,381	14,177,100
Administrative expenses	<u>25,955</u>	<u>22,127</u>
Total deductions	<u>15,108,336</u>	<u>14,199,227</u>
Net increase in assets available for benefits	26,521,427	24,076,900
Assets available for benefits:		
Beginning of year	<u>163,794,922</u>	<u>139,718,022</u>
End of year	<u>\$ 190,316,349</u>	<u>\$ 163,794,922</u>

See accompanying notes to financial statements.

MEMC RETIREMENT SAVINGS PLAN

Notes to Financial Statements

December 31, 2007 and 2006

(1) Description of the Plan

The following description of the MEMC Retirement Savings Plan (the Plan) provides only general information. Participants should refer to the plan document for a more complete description of the Plan's provisions.

(a) *General*

The Plan was established on April 1, 1989 under the provisions of Section 401(k) of the Internal Revenue Code and is a defined contribution retirement savings plan, subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA), sponsored by the Company. Generally, all employees of MEMC Electronic Materials, Inc. (the Company) compensated in U.S. dollars from a payroll location within the United States are eligible to participate in the Plan.

(b) *Contributions*

Each participant may elect to contribute from 1% to 50% of his/her covered compensation as described in the Plan on a before-tax basis. The before-tax contribution is limited to the amount specified by Section 402(g) of the Internal Revenue Code (\$15,500 and \$15,000 in 2007 and 2006 respectively). A participant is eligible to receive employer matching contributions of 100% of the first 3% of the employee's contribution, 50% of the next 2% contributed, and 20% of the next 1% contributed, up to 4.2% of the participant's covered compensation for the Plan year. The company contributes 2% of compensation as a special employer contribution on behalf of those individuals who were frozen in the MEMC Pension Plan or hired on or after January 2, 2002.

(c) *Participants' Accounts*

Each participant account is comprised of the following subaccounts: a before-tax account, an after-tax account, a Safe Harbor matching account, a matching account, and a rollover account, as applicable. Participants may elect to participate and/or adjust contribution elections at any time. Each participant account is credited with participant contributions as specified by the participant; an allocation of the Company's contributions; and the income, loss, appreciation, and depreciation attributable thereto.

(d) *Vesting*

Participant matching accounts are immediately and fully vested.

(e) *Investment Options*

Participants may direct investment or reinvestment of contributions credited to his/her individual account in any one or a combination of the 12 available investment options in increments of 1% of the amount credited. Interfund transfers in and out of the MEMC Stock Fund are limited to one per calendar month. Participants may elect to adjust all other investment options daily.

(f) *Participant Loans*

Participants may apply for and receive loans from their vested account. No more than two loans may be outstanding to a participant at any one time. The amount of loans to an individual participant shall not exceed the lesser of \$50,000 or one-half of the vested portion of the account balance of the participant as of the date the loan is requested by the participant without regard to any contributions

MEMC RETIREMENT SAVINGS PLAN

Notes to Financial Statements

December 31, 2007 and 2006

allocated to the account of the participant on or after such date. The minimum amount of any loan shall be \$1,000.

(g) *Payment of Benefits*

Under the terms of the Plan, participants or their designated beneficiaries are entitled to receive the amounts credited to their accounts upon normal retirement at age 65, early retirement, disability, or death. Participants terminating prior to retirement are entitled to receive the portion of their account that is vested. Distributions are made in the form of a lump-sum payment. If the participant's vested balance exceeds \$1,000, the participant may elect to defer receipt of the distribution.

A participant may elect to withdraw all or any portion of the amount credited to his After-Tax Account that exceeds the aggregate amount of matched After-Tax contributions to such account in the 24-month period ending on the Valuation Date as of which such withdrawal is made.

A participant may elect to withdraw the amount credited to his Matching Account that exceeds the aggregate contributions credited to such account in the 24-month period ending on the Valuation Date immediately preceding the date as of which such withdrawal is made.

A participant who has attained age 59½ may elect to withdraw the amounts credited to his Before-Tax and Safe Harbor Matching Account and his Nonmatching Account that exceeded the aggregate contributions credited to such accounts in the 24-month period ending on the valuation date immediately preceding the date as of which such withdrawal is made. A participant who has not yet attained age 59½ shall not be eligible to withdraw amounts credited to his Before-Tax and Safe Harbor Matching Account, and his Nonmatching Account except as provided for hardship withdrawals of Before-Tax contributions.

A participant may elect to withdraw all or any portion of the amount credited to his Rollover Account.

In addition, hardship withdrawals are allowed for employees under age 59½ under certain circumstances in an amount equal to the value of accumulated before-tax contributions and the Safe Harbor Match Account. Account earnings are not eligible for inclusion in the withdrawal amount. Participants incurring a hardship withdrawal will not be eligible to make further contributions to the Plan for at least 12 months after the receipt of such distribution.

MEMC RETIREMENT SAVINGS PLAN

Notes to Financial Statements

December 31, 2007 and 2006

(h) Additional Events

During the plan year ended December 31, 2006, MEMC was required to suspend the use of the Form S-8 registration statement (No. 333-19159) for the 401(k) Plan. MEMC had to suspend purchases, but not sales, of MEMC shares by participants in the 401(k) Plan (a blackout period). The blackout period only prevented participants from making additional investments in MEMC's common stock fund through the 401(k) Plan. Participants were unable to buy MEMC common stock through the 401(k) Plan during the blackout period, but participants were able to sell MEMC common stock held in their 401(k) Plan accounts during the blackout period (by reallocating assets out of the MEMC common stock fund in their 401(k) Plan account to another investment alternative.)

The blackout period was in connection with the previously announced restatement of MEMC's financial statements for the quarterly periods ended March 31, 2005 and June 30, 2005. As of September 19, 2006, MEMC had filed all required Forms 10-Q and 10-K with the Securities and Exchange Commission and the blackout period was terminated, thereby allowing purchases of MEMC common stock by participants in the 401(k) Plan.

(2) Summary of Accounting Policies

The following are the significant accounting policies followed by the Plan:

(a) Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting, except for benefit payments, which are recorded when paid.

(b) Use of Estimates

The preparation of the accompanying financial statements in conformity with accounting principles generally accepted in the United States of America requires the Plan Administrator to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

(c) Valuation of Investments

Purchases and sales of investments are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date. Investments are valued as follows:

- Investments in the stock fund and shares of a registered investment company are valued based on the fair value as determined by quoted market price on a daily basis.
- Investments in common/collective or pooled funds maintained by Putnam Investments (the Trustee) are valued at the price furnished by the Trustee. The cost of securities sold is based on the average cost of all such securities held at the time of sale.
- The value in the loan fund represents the unpaid principal of participant loans. Loans to participants are valued at cost, which approximates fair value.
- On January 1, 2006, the Plan adopted Financial Accounting Standards Board (FASB) Staff Position (FSP) AAG INV-1 and SOP 94-4-1, "Reporting of Fully Benefit-Responsive Investment Contracts Held by Certain Investment Companies Subject to the AICPA Investment

MEMC RETIREMENT SAVINGS PLAN

Notes to Financial Statements

December 31, 2007 and 2006

Company Guide and Defined-Contribution Health and Welfare and Pension Plans.” This FSP requires that fully benefit-responsive investment contracts be reported at fair value rather than contract value, as they were previously reported. Accordingly, investment contracts in the PRIMCO Stable Value Fund are now stated at fair value for all periods presented. Money market funds and cash and cash equivalents are recorded at cost, which approximates fair value. Earnings from the money market funds are reinvested in the funds and are reflected in dividends. There are no reserves against contract value for credit risk of the contract issuer or otherwise. The average yield and crediting interest rates ranged from 4.62% to 5.50% in 2007 and 3.85% to 5.52% in 2006 (see Note 7 for further discussion).

(d) Administrative Expenses

The reasonable expenses incident to the operation of this Plan shall be paid out of the trust fund, unless the Company, in its sole discretion, elects at any time to pay part or all of such expenses.

(3) Trust Fund Managed by the Trustee

The Plan assets are maintained in a trust fund. The investments, and changes therein, of this trust fund have been reported to the Plan by the Trustee.

(4) Plan Termination

Although it has not expressed any intent to do so, the Company has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions of ERISA.

(5) Tax Status

The Internal Revenue Service issued its latest determination letter on June 6, 2001, which stated that the Plan and its underlying trust qualify under the applicable provisions of the Internal Revenue Code and, therefore, are exempt from Federal income taxes. The Plan has been amended since receiving the determination letter. However, the Plan Administrator and the Plan’s counsel believe that the Plan is currently designed and being operated in compliance with the applicable requirements of the Internal Revenue Code.

MEMC RETIREMENT SAVINGS PLAN

Notes to Financial Statements

December 31, 2007 and 2006

(6) Investments

The following table presents investments that represent 5% or more of the net assets available for benefits at December 31.

	<u>2007</u>	<u>2006</u>
Investments:		
The George Putnam Fund of Boston	\$ 11,141,184	\$ 10,738,854
Putnam S&P 500 Index Fund	31,222,310	31,078,296
MEMC Electronic Materials, Inc. common stock	33,326,853	23,468,022
Dodge and Cox Stock Fund	13,489,996	11,321,242
RS Diversified Growth Fund	9,998,128	*
DFA Small Cap Value Stock Fund	*	8,268,232
Putnam International Growth Fund	16,064,755	9,985,976
Monumental Life	*	8,535,324
JP Morgan Chase Bank	*	7,325,924
Primco Total Return Fund	9,643,018	*

* Amounts were less than 5% of total net assets as of December 31

Net Appreciation in Fair Value

The Plan's investments (including investments bought, sold, and held during the year) appreciated in value by \$18,943,382 in 2007 and by \$19,973,320 in 2006, as follows:

	<u>2007</u>	<u>2006</u>
Investments at fair value as determined by quoted market price:		
Shares of registered investment companies	\$ (5,286,195)	\$ 3,653,126
Common/collective trusts	1,774,175	4,276,501
MEMC Electronic Materials, Inc. common stock	22,353,983	12,043,693
Net appreciation in fair value	\$ <u>18,841,963</u>	\$ <u>19,973,320</u>

MEMC RETIREMENT SAVINGS PLAN

Notes to Financial Statements

December 31, 2007 and 2006

(7) Investment Contract with Insurance Company

The Plan has entered into a benefit-responsive investment contract with Invesco. Invesco maintains the contributions in a general account. The account is credited with earnings on the underlying investments and charged for participant withdrawals and administrative expenses. The contract is included in the financial statements at fair value as reported to the Plan by Invesco and are then adjusted to contract value in determining net assets available for benefits. Contract value represents contributions made under the contract, plus earnings, less participant withdrawals and administrative expenses. Participants may ordinarily direct the withdrawal or transfer of all or a portion of their investment at contract value.

(8) Related Party Transactions

Certain Plan investments are shares of registered investment companies managed by Putnam Investments. Putnam Investments is the Trustee, as defined by the Plan, and, therefore, these transactions qualify as party-in-interest transactions. Fees paid by the Plan for the investment management services amounted to \$25,954 and \$22,127 for the years ended December 31, 2007 and 2006, respectively.

(9) Risks and Uncertainties

The Plan invests in various 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, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statement of net assets available for benefits.

(10) Reconciliation of Financial Statements to Form 5500

The following is a reconciliation of net assets available for benefits and changes in net assets available for benefits per the financial statements as of and for the period ended December 31, 2007:

	<u>2007</u>
Net assets available for benefits per the financial statements	\$ 190,316,349
Adjustment for fair market value to contract value for benefit responsive investment contracts	(446,414)
Net assets available for benefits per the Form 5500	\$ <u><u>189,869,935</u></u>
Changes in net assets available for benefits per the financial statements	\$ 26,521,427
Adjustment for fair market value to contract value for benefit responsive investment contracts	(446,414)
Changes in net assets available for benefits per the Form 5500	\$ <u><u>26,075,013</u></u>

Schedule 1

MEMC RETIREMENT SAVINGS PLAN

Schedule H, Line 4i – Schedule of Assets (Held at End of Year)

December 31, 2007

Identity of issuer, borrower, lessor, or similar party	Description of issue, maturity date, rate of interest, collateral, par or maturity value	Current Value
PIMCO Total Return Fund	Mutual Fund	\$ 9,643,018
The George Putnam Fund of Boston *	Mutual Fund	11,141,184
Putnam Vista Fund *	Mutual Fund	4,685,242
Putnam S&P 500 Index Fund *	Common/Collective Trust	31,222,310
Putnam International Growth Fund *	Mutual Fund	16,064,755
Putnam Voyager Fund *	Mutual Fund	2,262,868
DFA Small Cap Value Fund	Mutual Fund	8,295,616
RS Diversified Growth Fund	Mutual Fund	9,998,128
Dodge and Cox Stock Fund	Mutual Fund	13,489,996
MEMC Electronic Materials, Inc. common stock	Common Stock	33,326,853
UBS AG –#5178-T	Common/Collective Trust	7,596,056
State Street Bank Short Term Bond – #103045	Common/Collective Trust	6,021,409
ING Life Insurance #60030	Common/Collective Trust	6,038,442
Bank of America NT & SA – #03-069-T	Common/Collective Trust	6,510,102
Monumental Life – #MDA-00551TR	Common/Collective Trust	7,224,590
JP Morgan Chase Bank – #441894-MGC	Common/Collective Trust	7,627,905
Participant loans	Interest rates range from 4% to 9.5%	7,625,573
Mellon Trust - New England NA	Interest-bearing cash	657,284
Pending	Non-interest bearing cash	28,402
		<u>\$ 189,459,733</u>

Total investments

* Represents party-in-interest allowable by ERISA

See accompanying report of independent registered public accounting firm.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Employee Benefits Committee has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

MEMC Retirement Savings Plan

Date: June 27, 2008



Mignon Cabrera

SVP Human Resources

Plan Administrator

EXHIBIT INDEX

Exhibit No.

Description

23.1

Consent of Brown, Smith, Wallace, L.L.C.

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to incorporation by reference in the Registration Statement (Form S-8 No. 333-19159) of our report dated June 27, 2008, relating to the statements of net assets available for benefits of the MEMC Retirement Savings Plan as of December 31, 2007 and 2006, the related statements of changes in net assets available for benefits for the years then ended, and the related supplemental schedule of assets (held at end of year) as of December 31, 2007, which report appears in the December 31, 2007 Annual Report on Form 11-K of the MEMC Retirement Savings Plan.

Brown Smith Wallace, L.L.C.

St. Louis, Missouri
June 27, 2008

END