

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

FORM 11-K

(Mark One)

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

For the fiscal year ended December 31, 2006

OR

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

For the transition period from _____ to _____

Commission file number 1-475

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

A. O. Smith Profit Sharing Retirement Plan

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

A. O. Smith Corporation

11270 West Park Place
Milwaukee, WI 53224

[Table of Contents](#)

REQUIRED INFORMATION

1. Not Applicable.
2. Not Applicable.
3. Not Applicable.
4. The A. O. Smith Profit Sharing Retirement Plan (the “Plan”) is subject to the requirements of the Employee Retirement Income Security Act of 1974 (“ERISA”). Attached hereto is a copy of the most recent financial statements and schedules of the Plan prepared in accordance with the financial reporting requirements of ERISA.

Exhibits

- 23.1 Consent of Independent Auditors
- 32 Certification

[Table of Contents](#)

A. O. SMITH
PROFIT SHARING RETIREMENT PLAN
Milwaukee, Wisconsin

AUDITED FINANCIAL STATEMENTS

Years Ended December 31, 2006 and 2005

TABLE OF CONTENTS

	<u>Page</u>
Independent Auditors' Report	1
Statements of Net Assets Available for Benefits	2
Statements of Changes in Net Assets Available for Benefits	3
Notes to Financial Statements	4 – 9
Schedule of Assets Held for Investment	10

INDEPENDENT AUDITORS' REPORT

Benefits Committee
A.O. Smith Profit Sharing Retirement Plan
Milwaukee, Wisconsin

We have audited the accompanying statements of net assets available for benefits of the A.O. Smith Profit Sharing Retirement Plan as of December 31, 2006 and 2005, 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. 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, and 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 Plan as of December 31, 2006 and 2005, 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 audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental Schedule of Assets Held for Investment – December 31, 2006, 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.

REILLY, PENNER & BENTON LLP

June 20, 2007
Milwaukee, Wisconsin

A.O. SMITH PROFIT SHARING RETIREMENT PLAN
Milwaukee, Wisconsin

Statements of Net Assets Available for Benefits
December 31, 2006 and 2005

	<u>2006</u>	<u>2005</u>
Assets:		
Investments in Master Trust:		
Investment options at fair value	\$ 238,608,751	\$ 226,504,667
Participant loans receivable	2,474,783	2,484,325
Total investments	<u>241,083,534</u>	<u>228,988,992</u>
Receivables:		
Company contributions	2,622,864	2,517,769
Due from brokers for securities transactions (Net)	14,108	—
Accrued Interest	29,344	31,535
Total receivables	<u>2,666,316</u>	<u>2,549,304</u>
Net assets reflecting all investments at fair value	<u>243,749,850</u>	<u>231,538,296</u>
Adjustment from fair value to contract value for Fully benefit-responsive investment contracts	1,097,975	1,059,757
Net assets available for benefits	<u>\$ 244,847,825</u>	<u>\$ 232,598,053</u>

The accompanying notes to the financial statements
are an integral part of this statement.

A.O. SMITH PROFIT SHARING RETIREMENT PLAN
Milwaukee, Wisconsin

Statements of Changes in Net Assets Available for Benefits
Years Ended December 31, 2006 and 2005

	<u>2006</u>	<u>2005</u>
Increases:		
Net income from the Master Trust:		
Investments	\$ 22,655,737	\$ 14,455,285
Interest income from participant loans	137,730	131,645
Net income	<u>22,793,467</u>	<u>14,586,930</u>
Contributions:		
Company	2,622,864	2,517,468
Participants	6,886,184	6,699,179
Rollovers	456,004	266,142
Total contributions	<u>9,965,052</u>	<u>9,482,789</u>
Total increases	<u>32,758,519</u>	<u>24,069,719</u>
Decreases:		
Benefit and withdrawal payments	<u>20,613,905</u>	<u>20,782,765</u>
Change in net assets before transfers	12,144,614	3,286,954
Transfers from other plans	105,158	
Transfers to other plans		(14,770)
Change in net assets available for benefits	<u>12,249,772</u>	<u>3,272,184</u>
Net assets available for benefits:		
Beginning of year	<u>232,598,053</u>	<u>229,325,869</u>
End of year	<u>\$ 244,847,825</u>	<u>\$ 232,598,053</u>

The accompanying notes to the financial statements
are an integral part of this statement.

A.O. SMITH PROFIT SHARING RETIREMENT PLAN

Milwaukee, Wisconsin

Notes to Financial Statements

December 31, 2006 and 2005

1. Basis of Presentation and Significant Accounting Policies

General

The A.O. Smith Profit Sharing Retirement Plan was established in 1956 to cover salaried or commissioned employees of the A. O. Smith Corporation, its subsidiaries and affiliates. Employees are eligible to participate in the Plan if they are scheduled to complete 1,000 hours of service in a Plan year. Employees elect to participate by designating a portion of their salary to be contributed to an account maintained on behalf of the participant. Participants direct the investment of their contributions into various investment options offered by the Plan (see Note 2).

Participant Loans

Participants may borrow from their fund accounts a minimum of \$1,000 up to a maximum of \$50,000 or 50 percent of their account balance, whichever is less. The loans are secured by the balance in the participant's account and bear interest at rates which are commensurate with local prevailing rates as determined by the Plan's Trustee.

Investment Valuation

All of the Plan's assets are held in the A. O. Smith Profit Sharing Retirement Master Trust (Master Trust) (Note 2) which are recorded at fair value.

Contributions and Benefit and Withdrawal Payments

The Plan is a defined contribution plan to which participants may make contributions of not less than 1% or more than 25% of their compensation. The Plan provides for all participant contributions to be made with tax-deferred dollars under Section 401(k) of the Internal Revenue Code. These contributions are excluded from the participant's current wages for federal income tax purposes. The Internal Revenue Code has set a maximum of \$15,000 and \$14,000 for tax-deferred contributions that may be excluded for any individual participant in 2006 and 2005, respectively. The Internal Revenue Code also allows additional catch-up contributions for participants over age fifty. The maximum additional contribution allowed was \$5,000 and \$4,000 in 2006 and 2005, respectively. No federal income tax is paid on the tax-deferred contributions and growth thereon until the participant makes withdrawals from the Plan.

Contributions from participants are recorded when A. O. Smith Corporation (the Company) makes payroll deductions from Plan participants. Contributions from the Company are accrued in the period in which they become obligations of the Company in accordance with terms of the Plan.

For each \$1.00 of 401(k) Tax-Deferred contributions, up to 6% of a participant's salary, the Company guarantees a contribution of \$.35. Additional Company contributions in excess of \$.35 will be based on the Company's return on net worth. The additional Company matching contribution amount is \$.05 times the return on net worth between 5% and 10%, plus \$.10 times the return on net worth in excess of 10% up to a maximum of 18%. Therefore, the guaranteed and additional contributions can combine for a maximum Company contribution of \$1.40 of participant contributions up to 6% of salary.

Vesting

Participants of the Plan are 0% vested in employer contributions with less than two years of participation, 40% vested after two years, 60% after three years, 80% after four years and fully vested after five years of participation. Participants are always fully vested in their own contributions.

A.O. SMITH PROFIT SHARING RETIREMENT PLAN
Milwaukee, Wisconsin

Notes to Financial Statements
December 31, 2006 and 2005
(Continued)

1. Basis of Presentation and Significant Accounting Policies (Continued)

Administrative Expense

Administrative expenses are the responsibility of the Plan and are part of the net income from the master trust.

Participant Account Provisions

A separate account is maintained for each participant. The separate account balances are adjusted periodically as follows:

- a. Semi-monthly for participant's contributions.
- b. Annually for Company contributions.
- c. Daily for a proportionate share of increases and decreases in the fair value of Plan assets.
- d. The accounts are periodically adjusted for forfeitures, which are reallocated to participants in the same manner as if they were a Company matching contribution for the Plan year. Forfeiture allocations for 2006 and 2005 amounted to \$19,149 and \$24,519, respectively.
- e. Daily for benefit and withdrawal payments which consist of the following:
 - i. Upon retirement, death, disability, or termination of employment resulting from permanent reduction of personnel, an employee may withdraw any amount or the entire account balance for any reason. At age 70 ¹/₂, an account distribution election must be made.
 - ii. Upon termination of employment for other reasons, the balance in the separate account (reduced for non-vested Company contributions and growth thereon based on years of service) may be paid in a lump sum.
 - iii. An active participant age 59 ¹/₂ or older and employed for five years may withdraw any amount up to the balance in the separate account. The balance in the separate account is paid to the participant in a lump sum.
 - iv. A participant may withdraw all or any portion of the principal balance attributable to after-tax contributions and earnings and rollover contributions and earnings. All or any portion of the balance attributable to Company contributions and earnings may also be withdrawn if the participant has five full years of employment with the Company.
 - v. A participant may withdraw at any time any amount attributable to participant contributions and growth to purchase, prevent eviction from or foreclosure on, a principal residence or to pay certain expenses (namely post-secondary education and unreimbursed medical expenses). Withdrawals may not include earnings on 401(k) contributions posted to a participant's account after 1988.
 - vi. No lump sum cash distribution in excess of \$5,000 will be made without the consent of the participant.
- f. Daily for investment allocation changes made by participants.
- g. Participants should refer to the Plan document for a complete description of the Plan's provisions.

A.O. SMITH PROFIT SHARING RETIREMENT PLAN

Milwaukee, Wisconsin

Notes to Financial Statements

December 31, 2006 and 2005

(Continued)

2. A. O. Smith Profit Sharing Retirement Master Trust

The Plan assets are held in the A. O. Smith Profit Sharing Retirement Master Trust at the Marshall and Ilsley Trust Company. The Plan offers nine investment vehicles in which participants may invest their account balances. Shares of mutual funds are valued at the net asset value of shares held at year end. Shares of common/collective trust funds are valued at fair value and an adjustment from fair value to contract value is made on the statement of Assets and Liabilities. Participant loans receivable are valued at cost which approximates fair value.

The amount of Master Trust assets, income and change in value which is allocated to the Plan is determined by the ratio of participant account balances in the Plan to the total participant account balances of all participating plans. The defined contribution plans participating in the Master Trust at December 31, 2006, are the A. O. Smith Profit Sharing Retirement Plan, the A. O. Smith Corporation Savings Plan, the A.O. Smith Retirement Savings Plan and the APCOM, Inc. Retirement and Savings Plan. At December 31, 2006, the Plan was allocated 82.176% and 81.705%, respectively, of the Master Trust assets.

Significant information related to the investments in the Master Trust as of and for the year ended December 31, 2006, is as follows:

	December 31, 2006 Fair Value	2006 Income	2006 Change in Fair Value
a. Register Investment Company Mutual Funds:			
American EuroPacific Growth Fund	\$ 22,730,250	\$ 4,138,937	\$ 5,132,627
First American Equity Income Fund	20,513,722	3,131,475	5,180,333
Fidelity Aggressive Equity Portfolio	52,242,987	6,260,485	(3,332,977)
Vanguard Institutional Index Trust Fund	22,867,804	2,767,147	4,369,697
Evergreen Core Bond Fund	9,270,965	384,733	644,413
American Balanced Fund	17,298,841	1,389,836	1,164,048
Marshall Mid Cap Value Fund	23,587,074	3,146,627	(2,582,810)
Subtotal	168,511,643	21,219,240	10,575,331
b. Common/Collective Trusts:			
A.O. Smith Stock Fund	3,312,546	272,892	302,512
A.O. Smith Stable Asset Income Fund	118,672,270	5,242,753	2,084,737
Subtotal	121,984,816	5,515,645	2,387,249
c. Participant Loans Receivable	4,178,967	227,653	166,152
d. Cash	36,075	—	24,070
Total	<u>\$ 294,711,501</u>	<u>\$ 26,962,538</u>	<u>\$ 13,152,802</u>

A.O. SMITH PROFIT SHARING RETIREMENT PLAN

Milwaukee, Wisconsin

Notes to Financial Statements

December 31, 2006 and 2005

(Continued)

2. A. O. Smith Profit Sharing Retirement Master Trust (Continued)

Significant information related to the investments in the Master Trust as of and for the year ended December 31, 2005, is as follows:

	December 31, 2005 Fair Value	2005 Income	2005 Change in Fair Value
a. Register Investment Company Mutual Funds:			
American EuroPacific Growth Fund	\$ 17,597,623	\$ 2,779,137	\$ 6,795,372
First American Equity Income Fund	15,333,389	709,097	(161,906)
Fidelity Aggressive Equity Portfolio	55,575,964	4,841,929	(5,079,315)
Vanguard Institutional Index Trust Fund	18,498,107	863,815	(1,185,243)
Evergreen Core Bond Fund	8,626,552	194,270	(344,165)
American Balanced Fund	16,134,793	519,409	(1,515,282)
Marshall Mid Cap Value Fund	26,169,884	1,764,501	4,701,862
Subtotal	157,936,312	11,672,158	3,211,323
b. Common/Collective Trusts:			
A.O. Smith Stock Fund	3,010,034	563,818	(354,163)
A.O. Smith Stable Asset Income Fund	116,587,533	4,708,293	800,939
Subtotal	119,597,567	5,272,111	446,776
c. Participant Loans Receivable	4,012,815	207,331	149,598
d. Cash	12,005	—	(2,479)
Total	\$281,558,699	\$17,151,600	\$ 3,805,218

A.O. SMITH PROFIT SHARING RETIREMENT PLAN

Milwaukee, Wisconsin

Notes to Financial Statements

December 31, 2006 and 2005

(Continued)

3. Investments

Investments held by the Plan, that represents 5% or more of the Plan's net assets are as follows:

	December 31,	
	2006	2005
Fidelity Aggressive Equity Fund, 50,491.762 and 60,692.189 shares, respectively	\$ 48,143,552	\$ 51,696,393
First American Equity Income Fund, 1,044,675.535 and 811,862.756 shares, respectively	15,837,281	11,431,028
Vanguard Institutional Index Fund, 153,500.826 and 136,397.085 shares, respectively	19,892,172	15,550,632
A.O. Smith Stable Asset Income Fund, 4,298,216.464 and 4,341,161.292 shares, respectively	91,221,250	88,045,987
American Balanced Fund, 841,429.663 and 829,432.622 shares, respectively	16,012,406	14,788,784
Marshall Mid Cap Value Fund, 1,257,725.649 and 1,512,139.343 shares, respectively	19,092,275	22,077,234
American EuroPac Growth Fund, 434,183.643 and 381,127.602 shares, respectively	20,215,590	15,660,533

4. A.O. Smith Stable Asset Income Fund

The master trust in which the plan's assets are invested owns shares of the A.O. Smith Stable Asset Income Fund (the Fund). The Fund owns shares of two collective investment funds which hold Guaranteed investment contracts. Information pertaining to these two funds for the year ended December 31, 2006, is as follows:

	Average Yield	Crediting Interest Rate	Investments at Fair Value	Wrapper Contracts at Fair Value	Adjustment to Contract Value
M&I Stable Principal Fund	4.47%	4.63%	44,332,707	44,780,512	447,805
Wells Fargo Stable Return Fund G	5.24%	4.96%	45,790,568	46,440,738	650,170

Information pertaining to the two funds for the year ended December 31, 2005, is as follows:

	Average Yield	Crediting Interest Rate	Investments at Fair Value	Wrapper Contracts at Fair Value	Adjustment to Contract Value
M&I Stable Principal Fund	4.00%	4.18%	42,789,557	43,221,775	432,218
Wells Fargo Stable Return Fund G	5.20%	4.65%	44,196,673	44,824,212	627,539

A.O. SMITH PROFIT SHARING RETIREMENT PLAN

Milwaukee, Wisconsin

Notes to Financial Statements

December 31, 2006 and 2005

(Continued)

5. Income Tax Status

The Plan obtained its latest determination letter on October 21, 1999, in which the Internal Revenue Service stated the Plan as then designed, was in compliance with the applicable requirements of the Internal Revenue Code. The Plan administrator and the Plan's tax counsel believe that the Plan is currently designed and being operated in compliance with the applicable requirements of the Internal Revenue Code. Therefore, no provision for income taxes has been included in the Plan's financial statements.

6. Plan Termination

While the Company has not expressed any intent to terminate the Plan, it is free to do so at any time. In the event of termination, each participant automatically becomes vested to the extent of the balance in his separate account.

7. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts in the financial statements. Actual results could differ from those estimates.

A.O. SMITH PROFIT SHARING RETIREMENT PLAN

Milwaukee, Wisconsin

EIN 39-0619790, Plan 018

Schedule H, line 4i - - Schedule of Assets Held for Investment

December 31, 2006

(a)	(b) Identity of Issue	(c) Description of Investment	(d) Cost	(e) Current Value
*	Participant Loans	5% - 10%	\$ —	\$2,474,783

CONSENT OF REILLY, PENNER & BENTON LLP

We consent to the incorporation by reference in the Registration Statement (Form S-8 No. 333-05799) pertaining to the A. O. Smith Profit Sharing Retirement Plan (the Plan) of our report dated June 20, 2007 with respect to the financial statements and schedules of the Plan included in this Annual Report (Form 11-K) for the year ended December 31, 2006.

Milwaukee, Wisconsin
June 20, 2007

REILLY, PENNER & BENTON LLP

CERTIFICATION
PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002
WITH RESPECT TO THE ANNUAL REPORT ON FORM 11-K
FOR THE YEAR ENDED DECEMBER 31, 2006 PERTAINING TO THE
A. O. SMITH PROFIT SHARING RETIREMENT PLAN

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, 18 U.S.C. Section 1350, the undersigned certifies that to the best of his knowledge:

- (1) the Annual Report on Form 11-K pertaining to the A. O. Smith Profit Sharing Retirement Plan (the "Plan") for the year ended December 31, 2006 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d) of the Securities and Exchange Act of 1934; and
- (2) the information contained in the Report fairly presents, in all material respect, the financial condition and results of the Plan.

Dated: June 27, 2007

/s/ Duane R. Carlson

Duane R. Carlson
Manager, Pension and Savings Plan