

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



Form S-8
REGISTRATION STATEMENT
under
THE SECURITIES ACT OF 1933

THE DOW CHEMICAL COMPANY
(a Delaware corporation)
Executive Offices -- 2030 Dow Center
Midland, Michigan 48674

*(Name, state of incorporation and address of principal
executive office of issuer)*

I.R.S. Employer Identification No. 38-1285128

The Dow Chemical Company
2003-2013 Employees' Stock Purchase Plan
(Full title of the plan)

CHARLES J. KALIL
Corporate Vice President, General Counsel
and Corporate Secretary
THE DOW CHEMICAL COMPANY
2030 Dow Center
Midland, Michigan 48674

(Name and address of agent for service)
Telephone: (989) 636-1000

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, par value \$2.50 per share, of The Dow Chemical Company | 6,000,000 shares | \$30.81 | \$184,860,000 | \$19,780.02 (a) |

(a) An aggregate of \$19,780.02 of the filing fee was previously paid in connection with: (1) 1,164,342 in unsold shares of the Common Stock of The Dow Chemical Company originally registered under registration statement no. 333-107695 initially filed by the registrant on August 6, 2003 (\$20,563.41 in fees paid; \$3,990.47 in fees associated with unsold securities deregistered on November 2, 2005); (2) 1,881,273 in unsold shares of the Common Stock of The Dow Chemical Company originally registered under registration statement no. 333-115184 initially filed by the registrant on May 5, 2004 (\$25,808.59 in fees paid; \$8,092.23 in fees associated with unsold securities deregistered on November 2, 2005); and (3) 4,858,703 in unsold shares of the Common Stock of The Dow Chemical Company originally registered under registration statement no. 333-124614 initially filed by the registrant on May 4, 2005 (\$30,543.15 in fees paid; \$24,733.35 in fees associated with unsold securities deregistered on October 31, 2006, \$7,697.32 of which is being used in connection with this registration statement, leaving a balance of \$17,036.03 to be applied to future filings. Accordingly, pursuant to Rule 457(p) under the Securities Act of 1933, as amended, the registrant is offsetting \$19,780.02 against the total filing fee of \$19,780.02 due in connection with the filing of this registration statement.

PART II

Item 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

The following documents heretofore filed by The Dow Chemical Company ("Dow") with the Securities and Exchange Commission (the "Commission") are incorporated herein by this reference:

(a) Dow's Annual Report on Form 10-K for the year ended December 31, 2005, as updated by Dow's Current Report on Form 8-K filed on July 11, 2006 to reflect a change in segment reporting due to recent changes in Dow's organizational structure.

(b) Dow's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2006, June 30, 2006 and September 30, 2006.

(c) Dow's Current Reports on Form 8-K filed on January 26, 2006, February 15, 2006, March 16, 2006, April 3, 2006, April 12, 2006, April 19, 2006, April 20, 2006, April 27, 2006, May 3, 2006, May 12, 2006, July 11, 2006, July 27, 2006, August 31, 2006, September 18, 2006, September 25, 2006, September 25, 2006 and October 13, 2006.

(d) The description of Dow's Common Stock, par value \$2.50 per share, contained in a registration statement filed pursuant to Section 12 of the Securities Exchange Act of 1934 (the "Act") and any amendments or reports filed for the purpose of updating that description.

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

Item 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

The validity of the issuance of Dow's Common Stock offered hereby has been passed on by Kenneth D. Isley, Assistant General Counsel - Corporate Financial Law for Dow. As of November 3, 2006, Mr. Isley beneficially owned 2,960 deferred stock units, 3,458 shares of Dow common stock pursuant to various employee stock plans and held options to purchase 15,037 shares of Dow common stock, of which options to purchase 5,170 shares of Dow common stock were exercisable.

Item 6. IDEMNIFICATION OF DIRECTORS AND OFFICERS.

Under Article VI of the Restated Certificate of Incorporation, as amended, Dow may indemnify its Directors, officers, employees and agents to such extent as is permitted by the laws of the State of Delaware and as Dow's Bylaws may from time to time provide. Section 145 of the General Corporation Law of the State of Delaware empowers Dow to indemnify, subject to the standards and limitations therein prescribed, any person in connection with any action, suit or proceeding brought or threatened by reason of the fact that such person is or was a Director, officer, employee or agent of Dow or is or was serving as such with respect to another corporation or other enterprise at the request of Dow. Under Section VI of the Bylaws of Dow, Dow is required to indemnify its Directors, officers and employees to the fullest extent permitted by Delaware law whenever such a person is a defendant in any legal proceeding. Section VI also gives the Company discretion to indemnify Directors, officers, employees and agents in other legal proceedings to which they are made a party. Any indemnification of a Director, officer, employee or agent of the Company must be approved by the Board of Directors. Dow maintains a Directors' and officers' liability insurance policy that indemnifies Dow's Directors and officers against certain losses in connection with claims made against them for certain wrongful acts.

Item 8. EXHIBITS.

| Exhibit No. | Description of Exhibit |
|-------------|---|
| 4 (a) | Restated Certificate of Incorporation of The Dow Chemical Company, filed as Exhibit 3(i) to Dow's Quarterly Report on Form 10-Q for the quarter ended June 30, 2004, incorporated herein by this reference. |
| 4 (b) | Bylaws of The Dow Chemical Company, filed as Exhibit 3(ii) to Dow's Quarterly Report on Form 10-Q for the quarter ended March 31, 2006, incorporated herein by this reference. |
| 5 | Opinion of Counsel |
| 23 (a) | Consent of Independent Registered Public Accounting Firm. |
| 23 (b) | ARPC's Consent. |
| 23 (c) | Consent of Kenneth D. Isley, included in the opinion filed as Exhibit 5. |
| 24 | Power of Attorney. |

Item 9. UNDERTAKINGS.

(a) 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 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; and

(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) 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 Securities and Exchange Commission by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 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 Securities Act of 1933 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 Act of 1933 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 Midland, State of Michigan, on November 3, 2006.

THE DOW CHEMICAL COMPANY
(Registrant)

By: /S/ WILLIAM H. WEIDEMAN
William H. Weideman
Vice President and
Controller

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 date indicated.

A. A. ALLEMANG*

A. A. Allemang Director

J. K. BARTON*

J. K. Barton Director

J. A BELL*

J. A. Bell Director

J. M. FETTIG*

J. M. Fettig Director

B. H. FRANKLIN*

B. H. Franklin Director

J. B. HESS*

J. B. Hess Director

A. N. LIVERIS*

A. N. Liveris Director, Chairman,

President and Chief
Executive Officer

G. E. MERSZEI*

G. E. Merszei

Executive Vice
President and Chief
Financial Officer

J. P. REINHARD*

J. P. Reinhard

Director

J. M. RINGLER*

J. M. Ringler

Director

R. G. SHAW*

R. G. Shaw

Director

P. G. STERN*

P. G. Stern

Presiding Director

W. H. WEIDEMAN*

W. H. Weideman

Vice President and
Controller (Principal
Accounting Officer)

*By: /S/ WILLIAM H. WEIDEMAN

William H. Weideman

Attorney-in-Fact

November 3, 2006

EXHIBIT INDEX

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| 5 | Opinion of Counsel | 11-12 |
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| 23 (b) | ARPC's Consent. | 14 |
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| 24 | Power of Attorney. | 15-16 |

EXHIBIT 5

OPINION OF COUNSEL

November 3, 2006

The Dow Chemical Company
2030 Dow Center
Midland, Michigan 48674

Ladies and Gentlemen:

I am Assistant General Counsel - Corporate Financial Law of The Dow Chemical Company, a Delaware corporation (the "Company"). Reference is hereby made to the Registration Statement on Form S-8 filed by the Company on the date hereof with the Securities and Exchange Commission, relating to the registration of 6 million shares of the Company's common stock, par value \$2.50 per share (the "Common Stock"), for The Dow Chemical Company 2003-2013 Employees' Stock Purchase Plan (the "Plan").

In rendering the opinions expressed below, I have supervised the examination of: (a) the Restated Certificate of Incorporation of the Company and all amendments thereto; (b) the Bylaws of the Company and all amendments thereto; (c) the Registration Statement on Form S-8; (d) resolutions of the Board of Directors of the Company; and (e) such other documents, corporate records and instruments as I have deemed necessary or advisable for the purpose of this opinion.

Based on the foregoing, and subject to the qualifications hereinafter set forth, it is my opinion that:

1. The Company is duly organized and existing under the laws of the State of Delaware; and
2. The Common Stock to be issued pursuant to the Plan is duly authorized for issuance and, when issued and delivered, will be legally issued, fully paid and nonassessable.

I do not express any opinion concerning matters under or involving any law other than the law of the State of Michigan, the General Corporation Law of the State of Delaware and applicable federal law of the United States of America. The opinions expressed herein are based upon the laws in effect on the date hereof, and I assume no obligation to revise or supplement this opinion should such laws be changed by legislative action, judicial decision or otherwise.

I hereby consent to the filing of this opinion as an exhibit to the Company's Registration Statement on Form S-8 and to the reference to me under the caption '"Interests of Named Experts and Counsel'" in the Registration Statement.

Very truly yours,

/S/ KENNETH D. ISLEY
Kenneth D. Isley
Assistant General Counsel -
Corporate Financial Law
The Dow Chemical Company

EXHIBIT 23(a)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report relating to the consolidated financial statements and financial statement schedule (which report expresses an unqualified opinion and includes an explanatory paragraph relating to changes in the Company's method of accounting for stock-based compensation to conform to Statement of Financial Accounting Standards No. 123 for new grants of equity instruments to employees) of The Dow Chemical Company ("the Company") dated February 8, 2006 (July 7, 2006, as to the effect of changes in segment composition as discussed in Note U of the Current Report on Form 8-K of the Company filed on July 11, 2006) and our report relating to management's report on the effectiveness of internal control over financial reporting dated February 8, 2006, both appearing in the Current Report on Form 8-K of the Company for the year ended December 31, 2005.

/S/ DELOITTE & TOUCHE LLP

Deloitte & Touche LLP

Midland, Michigan

November 3, 2006

Exhibit 23(b)
Analysis, Research & Planning Corporation's Consent

Regarding the Registration Statement on Form S-8 for The Dow Chemical Company 2003-2013 Employees' Stock Purchase Plan (the "Registration Statement"), Analysis, Research & Planning Corporation ("ARPC") hereby consents to the incorporation by reference in the Registration Statement of the use of ARPC's name and the reference to ARPC's reports dated January 9, 2003, January 26, 2004, January 26, 2005 and January 3, 2006 appearing in the Annual Report on Form 10-K of The Dow Chemical Company for the year ended December 31, 2005; the Quarterly Reports on Form 10-Q for The Dow Chemical Company for the quarters ended March 31, 2006, June 30, 2006 and September 30, 2006; and the Current Report on Form 8-K for The Dow Chemical Company filed on July 11, 2006.

/s/ B. THOMAS FLORENCE

B. Thomas Florence

President

Analysis, Research & Planning Corporation

November 3, 2006

Exhibit 24
Power of Attorney

Each person whose signature appears below constitutes and appoints Geoffery E. Merszei, Charles J. Kalil and William H. Weideman, acting severally, as his or her attorney-in-fact and agent, to sign one or more registration statements on Form S-8 and any or all amendments (including post-effective amendments) to such registration statements in connection with the registration under the Securities Act of 1933 of shares of the common stock of The Dow Chemical Company pursuant to the **2003-2013 Employees' Stock Purchase Plan**, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting to said attorney-in-fact and agent full power and authority to perform any act in connection with any of the foregoing as fully to all intents and purposes as he or she might do in person, hereby ratifying and confirming all that said attorney-in-fact and agent may lawfully do or cause to be done by virtue hereof. Each attorney-in-fact and agent is hereby granted full power of substitution and revocation with respect hereto.

| SIGNATURE | TITLE | DATE |
|--|-----------------------------------|------------------|
| <u>/S/ A.A. Allemang</u> A.A. Allemang | Director and Senior Consultant | October 12, 2006 |
| <u>/S/ J.K. Barton</u> J.K. Barton | Director | October 12, 2006 |
| <u>/S/ J. A. Bell</u> J. A. Bell | Director | October 12, 2006 |
| <u>/S/ J. M. Fettig</u> J. M. Fettig | Director | October 12, 2006 |
| <u>/S/ B.H. Franklin</u> B.H. Franklin | Director | October 12, 2006 |

| | | |
|---|--|------------------|
| <u>/S/ J. B. Hess</u> J. B. Hess | Director | October 12, 2006 |
| <u>/S/ A. N. Liveris</u> A. N. Liveris | Director, Chairman, President and Chief Executive Officer | October 12, 2006 |
| <u>/S/ G. E. Merszei</u> G. E. Merszei | Director, Executive Vice President and Chief Financial Officer | October 12, 2006 |
| <u>/S/ J.P. Reinhard</u> J.P. Reinhard | Director | October 12, 2006 |
| <u>/S/ J.M. Ringler</u> J.M. Ringler | Director | October 12, 2006 |
| <u>/S/ R. G. Shaw</u> R. G. Shaw | Director | October 12, 2006 |
| <u>/S/ P.G. Stern</u> P.G. Stern | Presiding Director | October 12, 2006 |
| <u>/S/ W.H. WEIDEMAN</u> W. H. Weideman | Vice President and Controller (Principal Accounting Officer) | October 10, 2006 |