

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 1 to
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 registrant)

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
Executive 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

This Post-Effective Amendment No. 1 is being filed to amend Registration Statement No. 333-155074 on Form S-8 pursuant to which the Registrant registered 10,000,000 shares of its Common Stock, par value \$2.50 per share (the "Stock"), for sale through the 2009 tranche of The Dow Chemical Company 2003-2013 Employees' Stock Purchase Plan (the "Plan"). After the Registration Statement was filed and became effective, eligible employees purchased 6,566,402 shares of the Stock under the provisions of the Plan. Accordingly, the Registrant hereby deregisters the remaining 3,433,598 shares of the Stock.

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 amendment to Registration Statement No. 333-155074 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Midland, State of Michigan, on February 23, 2010.

THE DOW CHEMICAL COMPANY
(Registrant)

By: /s/ RONALD C. EDMONDS
Ronald C. Edmonds
Vice President and Controller