

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

FORM S-8
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ANGEION CORPORATION
(Exact name of registrant as specified in its charter)

Minnesota
(State or other jurisdiction of
incorporation or organization)

41-1579150
(I.R.S. Employer
Identification No.)

350 Oak Grove Parkway
Saint Paul, Minnesota 55127
(Address of principal executive offices and zip code)

ANGEION CORPORATION
2007 Stock Incentive Plan
(Full title of the Plan)

William J. Kullback
Chief Financial Officer
Angeion Corporation
350 Oak Grove Parkway
Saint Paul, Minnesota 55127
651-484-4874

Copy to:
Thomas G. Lovett, IV
Lindquist & Vennum, P.L.L.P.
4200 IDS Center
80 South 8th Street
Minneapolis, Minnesota 55402
612-371-3211

(Name, address and telephone number, including area code, of agent for service)

**Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the exchange Act. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

(Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common Stock, par value \$.01 per	100,000	\$4.49	\$449,000	\$32.02

share

- (1) Estimated solely for the purpose of determining the registration fee pursuant to Rule 457(c) and (h) and based upon the closing price of the Company's Common Stock on the Nasdaq Global Market on May 21, 2010.

INTRODUCTION

This Registration Statement on Form S-8 is filed by Angeion Corporation, a Minnesota corporation, ("Angeion" or the "Company") to register 100,000 shares of its common stock issuable under its 2007 Stock Incentive Plan.

INCORPORATION OF CONTENTS OF REGISTRATION STATEMENT BY REFERENCE

Angeion Corporation filed a Form S-8 Registration Statement with the Securities and Exchange Commission ("SEC") on August 23, 2007 (File No. 333-145653) covering the registration of 250,000 shares of the Common Stock under the Company's 2007 Stock Incentive Plan (the "2007 Plan"). The Company filed subsequent Form S-8 Registration Statements to register (i) an additional 300,000 shares on June 30, 2008 (File No. 333-152015), and (ii) an additional 100,000 shares on June 12, 2009 (File No. 333-159929). Pursuant to General Instruction E of Form S-8 and Rule 429, this Registration Statement is being filed to register an additional 100,000 shares authorized under the 2007 Plan. The contents of the prior Registration Statements are incorporated herein by reference.

PART I

Pursuant to the note to Part I of Form S-8, the information required by Items 1 and 2 of Form S-8 is not filed as a part of this Registration Statement.

PART II

Item 3. Incorporation of Documents by Reference.

The following documents filed with the Securities and Exchange Commission are hereby incorporated by reference:

- (a) The Company's Annual Report on Form 10-K for the fiscal year ended October 31, 2009;
- (b) The Company's Quarterly Report on Form 10-Q for the quarter ended January 31, 2010;
- (c) All other reports filed pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act since the end of the year ended October 31, 2009; and
- (d) The description of the Company's Common Stock to be offered pursuant to this Registration Statement is incorporated by reference to the Company's Registration Statement on Form 8-A (File No. 0-17019), filed on October 28, 2002, including any amendment or report filed for the purpose of updating this description.

All documents subsequently filed by the Company pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934 prior to the completion or termination of this offering of shares of Common Stock shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of filing of such documents.

Item 4. Description of Securities.

The description of the Company's Common Stock to be offered pursuant to this Registration Statement has been incorporated by reference into this Registration Statement as described in Item 3 of this Part II.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Section 302A.521 of the Minnesota Statutes and Article 5 of the Company's Amended and Restated Bylaws require, among other things, the indemnification of any person made or threatened to be made a party to a proceeding by reason of acts or omissions performed in the person's official capacity as an officer, director, employee or agent of the Company against judgments, penalties and fines (including attorneys' fees) if the person is not otherwise indemnified, acted in good faith, received no improper benefit, reasonably believed that such conduct was in the best interests of the Company, and, in the case of criminal proceedings, had no reason to believe the conduct was unlawful. In addition, Section 302A.521, subd. 3, of the Minnesota Statutes requires payment by the Company, upon written request, of reasonable expenses in advance of final disposition in certain instances if a decision as to required indemnification is made by a disinterested majority of the Board of Directors present at a meeting at which a disinterested quorum is present, or by a designated committee of the Board, by special legal counsel, by the shareholders or by a court. The Company also maintains insurance to assist in funding indemnification of directors and officers for certain liabilities.

Item 7. Exemption from Registration Claimed.

Not applicable.

Item 8. Exhibits.

Exhibit

- 4.1 Angeion Corporation 2007 Stock Incentive Plan, as amended, incorporated by reference to Appendix A to the definitive proxy statement dated April 13, 2010, and filed with the SEC on April 14, 2010 for the Annual Meeting of Shareholders held on May 25, 2010.
- 5.1 Opinion of Lindquist & Vennum P.L.L.P.
- 23.1 Consent of Lindquist & Vennum P.L.L.P. (included in Exhibit 5.1)
- 23.2 Consent of Baker Tilly Virchow Krause, LLP, the Company's Independent Registered Public Accounting Firm
- 24.1 Power of Attorney (included on signature page)

Item 9. Undertakings.

(a) The Company hereby undertakes to:

(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 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;

(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 that 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 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 Act 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 connected 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 Act and will be governed by the final adjudication.

SIGNATURES

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 Vadnais Heights, State of Minnesota, on May 25, 2010.

ANGEION CORPORATION

By /s/ Rodney A. Young
Rodney A. Young, Chief Executive Officer, President

POWER OF ATTORNEY

The undersigned officers and directors of Angeion Corporation hereby constitute and appoint Rodney A. Young and William J. Kullback, each acting alone, with power to act as our true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for us and in our stead, in any and all capacities to sign any and all amendments (including post-effective amendments) to this Registration Statement and all documents relating

thereto, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto each attorney-in-fact and agent, full power and authority to do and perform each and every act and thing necessary or advisable to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each attorney-in-fact and agent, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons in the capacities indicated on May 25, 2010.

<u>/s/ Rodney A. Young</u> Rodney A. Young	Chief Executive Officer, President (principal executive officer), Director
<u>/s/ William J. Kullback</u> William J. Kullback	Chief Financial Officer (principal financial and accounting officer), Corporate Secretary
<u>/s/ John R. Baudhuin</u> John R. Baudhuin	Director
<u>/s/ K. James Ehlen, M.D.</u> K. James Ehlen, M.D.	Director
<u>/s/ John C. Penn</u> John C. Penn	Director
<u>/s/ Scott A. Shuda</u> Scott A. Shuda	Director
<u>/s/ Philip I. Smith</u> Philip I. Smith	Director
<u>/s/ Paula R. Skjefte</u> Paula R. Skjefte	Director

Exhibit 5.1

May 25, 2010

Angeion Corporation
350 Oak Grove Parkway
Saint Paul, Minnesota 55127

Re: Opinion of Counsel as to Legality of 100,000 shares of Common Stock to be registered under the Securities Act of 1933

Ladies and Gentlemen:

This opinion is furnished in connection with the registration under the Securities Act of 1933 on Form S-8 of 100,000 shares of Common Stock, \$.10 par value per share, of Angeion Corporation, (the "Company") offered to employees, directors and consultants of the Company or its subsidiaries pursuant to the Angeion Corporation 2007 Stock Incentive Plan (the "Plan").

As general counsel for the Company, we advise you that it is our opinion, based on our familiarity with the affairs of the Company and upon our examination of pertinent documents, that the 100,000 shares of Common Stock to be offered to employees, directors and consultants under the Plan will, when paid for and issued, be validly issued and lawfully outstanding, fully paid and nonassessable shares of Common Stock of the Company.

The undersigned hereby consent to the filing of this opinion with the Securities and Exchange Commission as an Exhibit to the Registration Statement with respect to said shares of Common Stock under the Securities Act of 1933.

Very truly yours,

LINDQUIST & VENNUM P.L.L.P.

/s/ Lindquist & Vennum P.L.L.P.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors
Angeion Corporation:

We consent to the incorporation by reference in the Registration Statement on Form S-8 of our report dated January 27, 2010, with respect to the consolidated balance sheets of Angeion Corporation and subsidiaries as of October 31, 2009 and 2008, and the related consolidated statements of operations, cash flows, and shareholders' equity for the years then ended, incorporated herein by reference.

/s/ Baker Tilly Virchow Krause, LLP

Minneapolis, Minnesota
May 25, 2010
