

SCHEDULE 13D
(Rule 13d-101)

**INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO RULES 13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO
RULE 13d-2(a)
(Amendment No. 2)¹**

MKS INSTRUMENTS, INC.

(Name of Issuer)

Common Stock, no par value

(Title of Class of Securities)

55306N104

(CUSIP Number)

Harley M. Smith
Assistant Secretary
Emerson Electric Co.
8000 W. Florissant Avenue
St. Louis, MO 63136
(314) 553-2431

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

October 16, 2003

(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box o.

Note. Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

(Continued on the following pages)

¹ The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

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1	NAME OF REPORTING PERSON I.R.S. IDENTIFICATION NOS. OF ABOVE PERSON (ENTITIES ONLY) Emerson Electric Co.
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP * (a) o (b) x
3	SEC USE ONLY

4	SOURCE OF FUNDS* OO, WC
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) o
6	CITIZENSHIP OR PLACE OF ORGANIZATION State of Missouri
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7 SOLE VOTING POWER 3,036,611
	8 SHARED VOTING POWER 23,298,523
	9 SOLE DISPOSITIVE POWER 3,036,611
	10 SHARED DISPOSITIVE POWER 8,963,389
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 26,335,134 - See Items 4 and 5
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES * o
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 51.5% - See Items 4 and 5
14	TYPE OF REPORTING PERSON* CO

*SEE INSTRUCTIONS BEFORE FILING OUT!

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1	NAME OF REPORTING PERSON I.R.S. IDENTIFICATION NOS. OF ABOVE PERSON (ENTITIES ONLY) Astec America, Inc.
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) o (b) o
3	SEC USE ONLY
4	SOURCE OF FUNDS* OO
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) o
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7 SOLE VOTING POWER -0-
	8 SHARED VOTING POWER 8,963,389
	9 SOLE DISPOSITIVE POWER -0-
	10 SHARED DISPOSITIVE POWER 8,963,389
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 8,963,389 - See Item 5
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES * o

13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 17.4% - See Item 5
14	TYPE OF REPORTING PERSON* CO

*SEE INSTRUCTIONS BEFORE FILING OUT!

Unless indicated otherwise, all items left blank remain unchanged and any items which are reported are deemed to replace or add to the existing items in the original Schedule 13D (as amended). All defined terms shall have the same meaning as previously ascribed to them in the original Schedule 13D (as amended), unless otherwise noted.

Item 1. Security and Issuer.

Item 2. Identity and Background.

Item 3. Source and Amount of Funds or Other Consideration.

Item 4. Purpose of Transaction.

The following additional paragraph is added before the last paragraph of item 4 of Amendment No. 1 to Schedule 13D:

Emerson, on behalf of itself and Astec, exercised piggyback registration rights pursuant to Section 5.02 the Shareholder Agreement, resulting in 3,036,611 shares of Common Stock held directly by Emerson and 963,389 shares of Common Stock held directly by Astec to be included for sale in MKS' registration statement on Form S-3 filed on October 16, 2003.

Item 5. Interest in Securities of the Issuer.

(a) For the purposes of Rule 13d-3 promulgated under the Exchange Act, Emerson may be deemed to beneficially own 26,335,134 shares of Common Stock, or approximately 51.1% of the outstanding shares of Common Stock.

For the purposes of Rule 13d-3 promulgated under the Exchange Act, Astec may be deemed to beneficially own 8,963,389 shares of Common Stock, or approximately 17.4% of the outstanding shares of Common Stock.

Emerson disclaims the existence of a group (pursuant to the Shareholder Agreement, Voting Agreement or otherwise) and the Reporting Persons are filing this Statement jointly pursuant to Rule 13d-1(k)(1) promulgated under the Exchange Act.

Except as set forth in this Item 5(a), none of the Reporting Persons, and, to the best of the knowledge of each Reporting Person, any persons named in Schedule A or Schedule B hereto, owns beneficially any Shares.

(b) By virtue of the relationship set forth under Item 2 of this Statement, Emerson may be deemed to have the sole power to vote or direct the vote and sole power to dispose or direct the disposition of 3,036,611 shares of Common Stock held by it directly and the shared power to direct the disposition of and vote of the 8,963,389 shares of Common Stock held by Astec.

By virtue of the Voting Agreement, the details of which are set forth under Item 4 of this Statement, Emerson may be deemed to have the shared power to vote or direct the vote of the 14,335,134 shares of Common Stock held by the Stockholders as of October 13, 2003 for the limited purposes described in Item 4 of this Statement.

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Astec has the shared power to vote or direct the vote and the shared power to dispose or direct the disposition of the 8,963,389 shares of Common Stock held by it.

(c) None of the Reporting Persons or any of the persons set forth in Schedule A or Schedule B has effected any transaction in the shares of Common Stock during the past 60 days.

(d) Emerson and Astec each shall be entitled to receive dividends declared on their respective shares of Common Stock and proceeds from the sale of the shares of Common Stock.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

Item 7. Material to be Filed as Exhibits.

Exhibit 1: Joint Filing Agreement

Exhibit 2: Agreement and Plan of Merger with respect to the Acquisition of the ENI Business dated as of October 30, 2001 between Emerson Electric Co. and MKS Instruments, Inc.²

Exhibit 3: Shareholder Agreement dated as of January 31, 2002 among MKS Instruments, Inc. and Emerson Electric Co.³

Exhibit 4: Voting Agreement dated as of October 30, 2001 between Emerson Electric Co. and John R. Bertucci, Claire R. Bertucci and certain other parties set forth in Schedule 1 to such Voting Agreement.⁴

Exhibit 5: Joinder Agreement to the Voting Agreement dated as of December 14, 2001 by Robinson Hill L.P.⁵

2 Filed as an exhibit to the Schedule 13D dated January 31, 2002.

3 Filed as an exhibit to the Schedule 13D dated January 31, 2002.

4 Filed as an exhibit to the Schedule 13D dated January 31, 2002.

5 Filed as an exhibit to the Schedule 13D dated January 31, 2002.

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SIGNATURES

After reasonable inquiry and to the best knowledge and belief of the undersigned, the undersigned certifies that the information set forth in this statement is true, complete and correct.

Date: October 17, 2003

EMERSON ELECTRIC CO.

By: /s/ Harley M. Smith

Name: Harley M. Smith
Title: Assistant Secretary

ASTEC AMERICA, INC.

By: /s/ Harley M. Smith

Name: Harley M. Smith
Title: Secretary

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SCHEDULE A

Executive Officers and Directors
of
Emerson Electric Co. ("Emerson")

The names of the Directors and the names and titles of the Executive Officers of Emerson Electric Co. are set forth below. If no business address is given, the director's or officer's business address is 8000 W. Florissant Avenue, St. Louis, MO 63136. Unless otherwise indicated below, all of the persons listed below are citizens of the United States of America.

Directors

Name and Business Address	Present Principal Occupation Including Name of Employer
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J.G. Berges	President of Emerson
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A.A. Busch III Anheuser-Busch Companies, Inc. One Busch Place St. Louis, MO 63118	Chairman of the Board and President of Anheuser-Busch Companies, Inc.
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D.N. Farr	Chief Executive Officer of Emerson
David C. Farrell	Retired
C. Fernandez G. Grupo Modelo, S.A. de C.V. Campos Eliseos No. 400, Piso 18 Lomas de Chapultepec 11000 Mexico, D.F. Citizenship: Mexico	Vice Chairman of the Board and Chief Executive Officer of Grupo Modelo, S.A. de C.V.
W.J. Galvin	Executive Vice President and Chief Financial Officer of Emerson
A.F. Golden Davis Polk & Wardwell 450 Lexington Avenue New York, NY 10017	Partner of Davis Polk & Wardwell
R.B. Horton Stoke Abbas South Stoke Oxfordshire RG8 OJT Citizenship: United Kingdom	Retired
C.F. Knight	Chairman of the Board of Emerson

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Name and Business Address	Present Principal Occupation Including Name of Employer
G.A. Lodge InnoCal Management, Inc. Park 80 West/Plaza One Saddle Brook, NJ 07662	President of InnoCal Management, Inc.
V.R. Loucks, Jr. 1101 Skokie Blvd. Suite 240 North Brook, IL 60062	Retired
J.B. Menzer Wal-Mart International 702 S.W. 8 th Street Mail Station 0130 Bentonville, AK 72716	President and Chief Executive Officer of Wal-Mart International.
C.A. Peters	Senior Executive Vice President of Emerson
J.W. Prueher	Retired
R.L. Ridgway	Retired
E.E. Whitacre, Jr. SBC Communications, Inc. 175 E. Houston, Ste. 1300 San Antonio, TX 78205	Chairman and Chief Executive Officer of SBC Communications Inc.

Executive Officers (who are not also Directors)

W.W. Withers	Senior Vice President, Secretary and General
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Counsel of Emerson

E.L. Monser

Chief Operating Officer of Emerson

R.J. Schlueter

Chief Accounting Officer of Emerson

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SCHEDULE B

Executive Officers and Directors
of
Astec America, Inc.

The names of the Directors and the names and titles of the Executive Officers of Astec America are set forth below. If no business address is given, the director's or officer's business address is 5810 Van Allen Way, Carlsbad, California 92008. Unless otherwise indicated below, all of the persons listed below are citizens of the United States of America.

Directors

Name and Business Address	Present Principal Occupation Including Name of Employer
J.L. Geldmacher	President of Astec America
W. Hartleb	Director Receivables Management, Astec America
T.C. Rosenast	Treasurer of Astec America

Executive Officers (who are not also Directors)

Not applicable

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JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, each of the persons named below agrees to the joint filing of a Statement on Schedule 13D (including amendments thereto) with respect to the Common Stock, no par value, of MKS Instruments, Inc., a Massachusetts corporation, and further agrees that this Joint Filing Agreement be included as an exhibit to such filings provided that, as contemplated by Section 13d-1(k)(ii), no person shall be responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate.

In evidence thereof, the undersigned, being duly authorized, hereby execute this Agreement this October 17, 2003.

This Joint Filing Agreement may be executed in any number of counterparts, all of which together shall constitute one and the same instrument.

EMERSON ELECTRIC CO.

By: /s/ Harley M. Smith

Name: Harley M. Smith
Title: Assistant Secretary

ASTEC AMERICA, INC.

By: /s/ Harley M. Smith

Name: Harley M. Smith
Title: Secretary