UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(MARK ONE)

[X] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2003

or

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _______________ to _______________

Commission file number 0-23621

MKS INSTRUMENTS, INC.

(Exact name of registrant as specified in its charter)

Massachusetts	04-2277512
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
Six Shattuck Road, Andover, Massachusetts	01810
(Address of principal executive offices)	(Zip Code)
Registrant's telephone number, including area code	(978) 975-2350

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X No __.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Exchange Act). Yes X No __.

Number of shares outstanding of the issuer's common stock as of July 31, 2003: 51,565,994

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS.

MKS INSTRUMENTS, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

	June 30, 2003 (Unaudited)	December 31, 2002
ASSETS		
Current assets:		
Cash and cash equivalents	$ 68,490	$ 88,820
Short-term investments	48,706	39,894
Trade accounts receivable, net	50,904	45,505
Inventories	74,570	73,235
Other current assets	6,491	6,098
Total current assets	249,161	253,552
Long-term investments	18,319	15,980
Property, plant and equipment, net	78,246	82,595
Goodwill, net	259,727	259,781
Acquired intangible assets, net	60,327	67,720
Other assets	5,715	5,995
Total assets	$671,495	$685,623
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Short-term borrowings	$ 12,539	$ 13,877
Current portion of long-term debt	1,777	4,263
Current portion of capital lease obligations	236	332
Accounts payable	18,079	15,301
Accrued compensation	6,145	6,117
Other accrued expenses	18,898	21,654
Total current liabilities	57,674	61,544
Long-term debt	10,614	11,469
Long-term portion of capital lease obligations	153	257
Other liabilities	1,526	1,663
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred Stock, $0.01 par value, 2,000,000 shares authorized; none issued and outstanding	--	--
Common Stock, no par value, 200,000,000 shares authorized; 51,507,713 and 51,359,753 issued and outstanding at June 30, 2003 and December 31, 2002, respectively	113	113
Additional paid-in capital	580,539	579,175
Retained earnings	15,723	28,623
Accumulated other comprehensive income	5,153	2,779
Total stockholders' equity	601,528	610,690
Total liabilities and stockholders' equity	$671,495	$685,623

The accompanying notes are an integral part of the consolidated financial statements.

MKS INSTRUMENTS, INC.
CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share data)
(Unaudited)

	Three Months Ended June 30, 2003	Three Months Ended June 30, 2002	Six Months Ended June 30, 2003	Six Months Ended June 30, 2002
Net Sales	$ 81,168	$ 85,932	$ 153,945	$ 144,999
Cost of sales	53,723	56,217	101,094	96,064
Gross profit	27,445	29,715	52,851	48,935
Research and development	11,453	12,053	22,685	21,185
Selling, general and administrative	17,459	20,721	35,278	37,779
Amortization of acquired intangible assets	3,617	4,137	7,395	6,342
Restructuring, asset impairment and other charges	304	--	304	--
Purchase of in-process research and development	--	2,290	--	8,390
Loss from operations	(5,388)	(9,486)	(12,811)	(24,761)
Interest expense	259	252	547	581
Interest income	541	608	1,109	1,363
Loss before income taxes	(5,106)	(9,130)	(12,249)	(23,979)
Provision (benefit) for income taxes	364	(4,436)	651	(7,498)
Net loss	$ (5,470)	$ (4,694)	$ (12,900)	$ (16,481)
Net loss per share:				
Basic and diluted	$ (0.11)	$ (0.09)	$ (0.25)	$ (0.34)
Weighted average common shares outstanding:				
Basic and diluted	51,419	51,152	51,399	48,720

The accompanying notes are an integral part of the consolidated financial statements.

MKS INSTRUMENTS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)
(Unaudited)

	Six Months Ended June 30, 2003	Six Months Ended June 30, 2002
Cash flows from operating activities:		
Net loss	$(12,900)	$ (16,481)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	14,971	13,522
Purchase of in-process research and development	--	8,390
Other	(71)	464
Changes in operating assets and liabilities net of effects of businesses acquired:		
Trade accounts receivable	(5,028)	(13,324)
Inventories	(984)	(8,458)
Other current assets	(393)	3,063
Accrued expenses and other current liabilities	(3,006)	(3,048)
Accounts payable	2,714	7,345
Net cash used in operating activities	(4,697)	(8,527)
Cash flows from investing activities:		
Purchases of short-term and long-term investments	(42,347)	(49,970)
Maturities and sales of short-term and long-term investments	31,345	33,354
Purchases of property, plant and equipment	(3,002)	(3,940)
(Increase) decrease in other assets	422	(511)
Purchases of businesses, net of cash acquired	--	(16,298)
Net cash used in investing activities	(13,582)	(37,365)
Cash flows from financing activities:		
Proceeds from short-term borrowings	23,517	6,968
Payments on short-term borrowings	(24,734)	(9,193)
Principal payments on long-term debt	(3,347)	(3,616)
Proceeds from exercise of stock options	1,364	7,518
Principal payments under capital lease obligations	(208)	(231)
Net cash provided by (used in) financing activities	(3,408)	1,446
Effect of exchange rate changes on cash and cash equivalents	1,357	469
Decrease in cash and cash equivalents	(20,330)	(43,977)
Cash and cash equivalents at beginning of period	88,820	120,869
Cash and cash equivalents at end of period	$ 68,490	$ 76,892
Supplemental disclosure of cash flow information:		
Cash paid during the period for:		
Interest	$ 412	$ 442
Income taxes	$ 212	$ 1,901
Noncash transactions during the period:		
Stock and options issued for acquisitions	--	$ 282,341

The accompanying notes are an integral part of the consolidated financial statements.

MKS INSTRUMENTS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Tables in thousands, except per share data)

1) Basis of Presentation

The terms "MKS" and the "Company" refer to MKS Instruments, Inc. and its subsidiaries. The interim financial data as of June 30, 2003 and for the three and six months ended June 30, 2003 and 2002 is unaudited; however, in the opinion of MKS, the interim data includes all adjustments, consisting only of normal recurring adjustments, necessary for a fair statement of the results for the interim periods. The unaudited financial statements presented herein have been prepared in accordance with the instructions to Form 10-Q and do not include all of the information and note disclosures required by generally accepted accounting principles. The financial statements should be read in conjunction with the December 31, 2002 audited financial statements and notes thereto included in the MKS Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2003.

2) Stock-Based Compensation

The Company applies Accounting Principles Board Opinion ("APB") No. 25, "Accounting for Stock Issued to Employees" and related interpretations in accounting for its stock-based compensation plans. Accordingly, no compensation expense is recorded for options issued to employees in fixed amounts and with fixed exercise prices at least equal to the fair market value of the Company's common stock at the date of grant.

The Company has adopted the provisions of Statement of Financial Accounting Standards ("SFAS") No. 123, "Accounting for Stock-Based Compensation," as amended by SFAS No. 148, "Accounting for Stock-Based Compensation-Transition and Disclosure," through disclosure only. All stock-based awards to non-employees are accounted for at their fair value in accordance with SFAS No. 123.

The following table illustrates the effect on net loss and net loss per share if the Company had applied the fair value recognition provisions of SFAS No. 123 to stock-based employee awards.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2003	2002	2003	2002
Net loss:				
Net loss as reported	$ (5,470)	$ (4,694)	$ (12,900)	$ (16,481)
Deduct: Total stock-based employee compensation expense determined under the fair-value-based method for all awards, net of tax	(5,138)	(3,848)	(10,040)	(6,999)
Pro forma net loss	$ (10,608)	$ (8,542)	$ (22,940)	$ (23,480)
Basic net loss per share:				
Net loss as reported	$ (0.11)	$ (0.09)	$ (0.25)	$ (0.34)
Pro forma net loss	$ (0.21)	$ (0.17)	$ (0.45)	$ (0.48)
Diluted net loss per share:				
Net loss as reported	$ (0.11)	$ (0.09)	$ (0.25)	$ (0.34)
Pro forma net loss	$ (0.21)	$ (0.17)	$ (0.45)	$ (0.48)

There is no tax benefit included in the stock-based employee compensation expense determined under the fair-value-based method for the three and six months ended June 30, 2003, as the Company established a full valuation allowance for its net deferred tax assets.

The weighted average fair value of options at the date of grant was estimated using the Black-Scholes model. In the three and six months ended June 30, 2003, the weighted fair value of options at the date of grant was $10.64 and $10.31, respectively, with the following assumptions: expected life of 5 years, weighted average interest rate of 2.51% and 2.70%, respectively, expected volatility of 79% and 80%, respectively, and no dividend yield. In the three and six months ended June 30, 2002, the weighted average fair value of options at the date of grant was

$19.23 and $16.50, respectively, with the following assumptions: expected life of 5 years, weighted average interest rate of 4.51% and 4.40%, respectively, expected volatility of 81%, and no dividend yield.

The fair value of purchase rights granted in the six months ended June 30, 2003 and 2002 under the Second Restated 1999 Employee Stock Purchase Plan was $7.06 and $13.82, respectively. The fair value of the employees' purchase rights was estimated using the Black-Scholes model with the following assumptions in 2003: expected life of 6 months, interest rate of 1.31%, expected volatility of 79%, and no dividend yield. In 2002, the following assumptions were made: expected life of 6 months, interest rate of 1.81%, expected volatility of 81%, and no dividend yield.

3) Use of Estimates

The consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an on-going basis, management evaluates its estimates and judgments, including those related to revenue recognition, accounts receivable, inventory, intangible assets, goodwill, other long-lived assets, in-process research and development, income taxes, deferred tax valuation allowance, and investments. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

4) Recent Accounting Pronouncements

In April 2003, the Financial Accounting Standards Board ("FASB") issued SFAS No. 149 ("SFAS 149"), "Amendment of Statement 133 on Derivative Instruments and Hedging Activities." This statement amends SFAS 133 to provide clarification on the financial accounting and reporting of derivative instruments and hedging activities and requires contracts with similar characteristics to be accounted for on a comparable basis. This statement is effective for contracts entered into or modified after June 30, 2003 and for hedging relationships designated after June 30, 2003. The Company is in the process of assessing the effect of SFAS 149 and does not expect the adoption of the pronouncement to have a material effect on its consolidated financial position or results of operations.

In May 2003, the FASB issued SFAS No. 150 ("SFAS 150"), "Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equity." SFAS 150 establishes standards on the classification and measurement of financial instruments with characteristics of both liabilities and equity. For all financial instruments entered into or modified after May 31, 2003, SFAS 150 is effective immediately. For all other instruments, SFAS 150 goes into effect at the beginning of the first interim period beginning after June 15, 2003. The Company is in the process of assessing the effect of SFAS 150 and does not expect the adoption of the pronouncement to have a material effect on its consolidated financial position or results of operations.

In January 2003, the FASB issued FASB Interpretation No. 46 ("FIN 46"), "Consolidation of Variable Interest Entities," which addresses consolidation by a business of variable interest entities in which it is the primary beneficiary. FIN 46 is effective immediately for certain disclosure requirements and variable interest entities created after January 31, 2003, and periods beginning after June 15, 2003 for variable interest entities created before February 1, 2003. The Company does not expect the adoption of FIN 46 to have a material effect on its consolidated financial position or results of operations.

(Tables in thousands, except per share data)

In November 2002, the Emerging Issues Task Force reached a consensus on Issue 00-21, "Revenue Arrangements with Multiple Deliverables" ("EITF 00-21"). EITF 00-21 addresses revenue recognition on arrangements encompassing multiple elements that are delivered at different points in time, defining criteria that must be met for elements to be considered to be a separate unit of accounting. If an element is determined to be a separate unit of accounting, the revenue for the element is recognized at the time of delivery. EITF 00-21 is effective for revenue arrangements entered into in fiscal periods beginning after June 15, 2003. The Company does not expect that the pronouncement will have a material impact on its consolidated financial position or results of operations.

5) Goodwill and Intangible Assets

Intangible Assets

Acquired amortizable intangible assets consisted of the following as of June 30, 2003:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Useful Life
Completed technology	$ 69,394	$(21,632)	$47,762	6 years
Customer relationships	6,640	(2,202)	4,438	7 years
Patents, trademarks, tradenames and other	12,394	(4,267)	8,127	7 years
	$ 88,428	$(28,101)	$60,327	6 years

Acquired amortizable intangible assets consisted of the following as of December 31, 2002:

	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Weighted Average Useful Life
Completed technology	$ 69,394	$(15,629)	$53,765	6 years
Customer relationships	6,640	(1,743)	4,897	7 years
Patents, trademarks, tradenames and other	12,394	(3,336)	9,058	7 years
	$ 88,428	$(20,708)	$67,720	6 years

Aggregate amortization expense related to acquired intangibles for the three and six months ended June 30, 2003 was $3,617,000 and $7,395,000, respectively. Aggregate amortization expense related to acquired intangibles for the three and six months ended June 30, 2002 was $4,137,000 and $6,342,000, respectively. Estimated amortization expense related to acquired intangibles for each of the five succeeding fiscal years is as follows:

Year	Amount
2003	$14,469
2004	14,145
2005	13,244
2006	11,143
2007	10,536

Goodwill

The change in the carrying amount of goodwill during the three and six months ended June 30, 2003 was not material.

(Tables in thousands, except per share data)

6) Cash and Cash Equivalents and Investments

Cash and Cash equivalents consist of the following:

	June 30, 2003	December 31, 2002
Cash and Money Market Instruments	$45,500	$51,538
Commercial Paper	17,394	31,216
Federal Government and Government Agency Obligations	4,856	6,066
Corporate Obligations	740	--
	$68,490	$88,820

Short-term available-for-sale investments at market value maturing within one year consist of the following:

	June 30, 2003	December 31, 2002
Commercial Paper	$ 9,003	$10,400
Federal Government and Government Agency Obligations	39,703	28,636
Corporate Obligations	--	858
	$48,706	$39,894

Long-term available-for-sale investments at market value with maturities of 1 to 5 years consist of the following:

	June 30, 2003	December 31, 2002
Commercial Paper	$ 3,063	$ --
Federal Government and Government Agency Obligations	7,078	2,061
Corporate Obligations	8,178	13,919
	$18,319	$15,980

Gross unrealized gains and losses on available-for-sale investments were not material at June 30, 2003 and December 31, 2002.

7) Net Loss Per Share

The following table sets forth the computation of basic and diluted net loss per share:

	Three Months Ended June 30, 2003	2002
Numerator		
Net loss	$ (5,470)	$ (4,694)
Denominator		
Shares used in net loss per common share - basic and diluted	51,419	51,152
Net loss per common share		
Basic and diluted	$ (0.11)	$ (0.09)

(Tables in thousands, except per share data)

	Six Months Ended June 30, 2003	2002
Numerator		
Net loss	$ (12,900)	$(16,481)
Denominator		
Shares used in net loss per common share - basic and diluted	51,399	48,720
Net loss per common share		
Basic and diluted	$ (0.25)	$ (0.34)

For purposes of computing diluted earnings per share, weighted average common share equivalents do not include stock options with an exercise price greater than the average market price of the common shares during the period. All options outstanding during the three and six months ended June 30, 2003 and 2002 are excluded from the calculation of diluted net loss per common share because their inclusion would be anti-dilutive. There were options to purchase approximately 8,218,000 and 7,203,000 shares of the Company's common stock outstanding as of June 30, 2003 and 2002, respectively.

8) Inventories

Inventories consist of the following:

	June 30, 2003	December 31, 2002
Raw material	$ 36,116	$ 36,630
Work in process	13,537	11,617
Finished goods	24,917	24,988
	$ 74,570	$ 73,235

9) Stockholders' Equity

Total comprehensive loss was as follows:

	Three Months Ended June 30, 2003	2002
Net loss	$(5,470)	$ (4,694)
Other comprehensive income, net of taxes:		
Changes in value of financial instruments designated as hedges of currency and interest rate exposures	258	4
Foreign currency translation adjustment	1,455	2,151
Unrealized gain (loss) on investments	(13)	118
Other comprehensive income, net of taxes	1,700	2,273
Total comprehensive loss	$(3,770)	$ (2,421)

	Six Months Ended June 30, 2003	2002
Net loss	$(12,900)	$ (16,481)
Other comprehensive income, net of taxes:		
Changes in value of financial instruments designated as hedges of currency and interest rate exposures	161	(152)
Foreign currency translation adjustment	2,225	1,811
Unrealized gain (loss) on investments	(12)	63

Other comprehensive income, net of taxes	2,374	1,722
Total comprehensive loss	$(10,526)	$ (14,759)

(Tables in thousands, except per share data)

10) Income Taxes

The Company records income taxes using the asset and liability method. Deferred income tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective income tax bases, and operating loss and tax credit carryforwards. The Company evaluates the realizability of its net deferred tax assets and assesses the need for a valuation allowance on a quarterly basis. The future benefit to be derived from its deferred tax assets is dependent upon its ability to generate sufficient future taxable income to realize the assets. The Company records a valuation allowance to reduce its net deferred tax assets to the amount that may be more likely than not to be realized. To the extent the Company establishes a valuation allowance, an expense will be recorded within the provision for income taxes line on the statement of income.

As a result of incurring significant operating losses since 2001, the Company determined that it is more likely than not that its deferred tax assets may not be realized, and since the fourth quarter of 2002 has established a full valuation allowance for its net deferred tax assets. Accordingly, the Company has not recorded a deferred tax benefit from the net operating loss incurred in the three and six months ended June 30, 2003. The provision for income taxes for the three and six months ended June 30, 2003 is comprised of tax expense from foreign operations and state taxes.

In periods subsequent to establishing a valuation allowance, if the Company were to determine that it would be able to realize its net deferred tax assets in excess of their net recorded amount, an adjustment to the valuation allowance would be recorded as a reduction to income tax expense in the period such determination was made. Also in future periods, if the Company were to determine that it would not be able to realize the recorded amount of its net deferred tax assets, an adjustment to the valuation allowance would be recorded as an increase to income tax expense in the period such determination was made.

11) Segment Information and Significant Customer

During 2002, the Company consolidated its product groups to accelerate product development, rationalize manufacturing operations, and reduce operating costs. This realignment of operations has organized the Company into three product groups: Instruments and Control Systems; Power and Reactive Gas Products; and Vacuum Products. The Company's products are derived from MKS' core competencies in pressure measurement and control; materials delivery; gas and thin-film composition analysis; control and information management; power and reactive gas generation; and vacuum technology. The Company's operating segments are aggregated into one reportable segment because the products are manufactured and distributed in a similar manner, have similar long-term margins and are sold to a similar customer base. The segment information for the three and six months ended June 30, 2002 has been reclassified to conform with these internal organizational changes.

Net sales to unaffiliated customers are based on the location in which the sale originated. Transfers between geographic areas are at negotiated transfer prices and have been eliminated from consolidated net sales.

Net sales to unaffiliated customers by geographic area for the three months ended June 30, 2003 and 2002 were as follows:

		United States	Far East	Europe	Total
Net sales to unaffiliated customers	2003	$47,813	$22,504	$10,851	$81,168
	2002	58,294	18,773	8,865	85,932

(Tables in thousands, except per share data)

Net sales to unaffiliated customers for the six months ended June 30, 2003 and 2002 and long-lived assets as of June 30, 2003 and 2002, by geographic area were as follows:

		United States	Far East	Europe	Total
Net sales to unaffiliated customers	2003	$90,938	$42,820	$20,187	$153,945
	2002	97,688	30,109	17,202	144,999
Long-lived assets	2003	$341,662	$55,458	$ 6,895	$404,015
	2002	368,630	58,625	6,241	433,496

Included in the Far East are Japan, Korea, Singapore, Taiwan, China and Hong Kong. Included in Europe are Germany, France and the United Kingdom. Net sales to unaffiliated customers from Japan were $11,962,000 and $9,151,000 for the three months ended June 30, 2003 and 2002 and $25,355,000 and $16,441,000 for the six months ended June 30, 2003 and 2002, respectively. Long-lived assets within Japan amounted to $9,986,000 and $11,830,000 at June 30, 2003 and 2002, respectively.

The Company had one customer comprising 18% and 27% of net sales for the three months ended June 30, 2003 and 2002, respectively, and 17% and 23% for the six months ended June 30, 2003 and 2002, respectively.

12) Commitments and Contingencies

Legal Matters

On April 3, 2003, Advanced Energy Industries, Inc. ("Advanced Energy") filed suit against MKS in federal district court in Colorado ("Colorado Action"), seeking a declaratory judgment that Advanced Energy's Xstream product does not infringe three patents held by Applied Science and Technology, Inc. ("ASTeX"), a subsidiary of MKS. MKS has filed a motion to dismiss Advanced Energy's complaint, and that motion is now pending before the Colorado court. On May 14, 2003, MKS and ASTeX brought suit in federal district court in Delaware against Advanced Energy for infringement of five ASTeX patents, including the three patents at issue in the Colorado Action. MKS and ASTeX seek injunctive relief and damages for Advanced Energy's infringement. Advanced Energy has moved to dismiss this suit in favor of Advanced Energy's Colorado Action, and MKS has opposed Advanced Energy's motion. Advanced Energy's motion to dismiss is now pending before the Delaware court. Both of these cases are in the early stages of pre-trial discovery.

On November 3, 1999, On-Line Technologies, Inc. ("On-Line"), which was acquired by the Company in April 2001, brought suit in federal district court in Connecticut against Perkin-Elmer, Inc. and certain other defendants for infringement of On-Line's patent related to its FTIR spectrometer product. The suit sought injunctive relief and damages for infringement. Perkin-Elmer, Inc. filed a counterclaim seeking invalidity of the patent, costs, and attorneys' fees. In June 2002, the defendants filed a motion for summary judgment. In April 2003 the court granted the motion and dismissed the case. The Company has appealed this decision.

The Company is subject to legal proceedings and claims, which have arisen in the ordinary course of business. In the opinion of management, the ultimate disposition of these matters will not have a material adverse effect on the Company's results of operations, financial condition or cash flows.

(Tables in thousands, except per share data)

13) Acquisitions

On January 31, 2002, MKS completed its acquisition of the ENI Business ("ENI") of Emerson Electric Co., a supplier of solid-state radio frequency (RF) and direct current (DC) plasma power supplies, matching networks and instrumentation to the semiconductor and thin-film processing industries. The reasons for the acquisition of ENI were based upon the ability to offer higher value and more integrated application solutions by combining ENI's solid-state power conversion technology with the Company's core competency in plasma and reactive gas solutions. On March 13, 2002, MKS acquired Tenta Technology Ltd. ("Tenta"), a company that designs and supplies modular, computer-based process control systems for 300mm semiconductor process tool applications.

The reasons for the acquisition were based upon the ability to offer higher value and more integrated application solutions by integrating Tenta's process controllers with MKS digital network products to provide a more complete process control solution. On April 5, 2002, MKS acquired IPC Fab Automation GmbH ("IPC"), a privately held developer and provider of web-based hardware and software that enables e-diagnostics and advanced process control for advanced manufacturing applications. The acquisitions have been accounted for under the purchase method of accounting. The results of operations of these acquired companies are included in the Company's consolidated statement of income as of and since the date of purchase.

The following unaudited pro forma information presents a summary of the historical results of operations of the Company as if the ENI, Tenta and IPC acquisitions had occurred at the beginning of each period.

	Three Months Ended June 30, 2002	Six Months Ended June 30, 2002
Net sales...........................	$85,932	$149,446
Net loss............................	$(2,404)	$(10,671)
Net loss per share:		
Basic and diluted..............	$ (0.05)	$ (0.21)

The unaudited pro forma results for the three and six months ended June 30, 2002 excludes approximately $1,300,000 of non-recurring charges directly related to the transactions. Additionally, the charge for purchase of in-process research and development was not included in the unaudited pro forma results, because it was non-recurring and directly related to the transaction.

14) Restructuring, Asset Impairment and Other Charges

During 2002, the Company implemented a consolidation of recent acquisitions to accelerate product development, rationalize manufacturing operations, and reduce operating costs. As a result, the Company recorded restructuring and asset impairment charges of $2,726,000 during 2002. The activity for the six months ended June 30, 2003 related to the 2002 restructuring accrual is outlined as follows:

	Workforce Reductions	Facility Consolidations	Total
Balance as of December 31, 2002 ..	$ 331	$ 1,159	$ 1,490
Cash payments in first quarter ...	(75)	(21)	(96)
Balance as of March 31, 2003	256	1,138	1,394
Cash payments in second quarter ..	(35)	(21)	(56)
Balance as of June 30, 2003	$ 221	$ 1,117	$ 1,338

During the three months ended June 30, 2003, the Company continued the consolidation of recent acquisitions and recorded restructuring, asset impairment and other charges of $304,000. The charges consisted of $112,000 of severance costs related to workforce reductions, an asset impairment charge of $92,000 primarily for assets to be disposed, and $100,000 of professional fees related to the consolidation. The severance costs and professional fees are accrued as of June 30, 2003 and are expected to be paid by the end of 2003.

(Tables in thousands, except per share data)

15) Product Warranties

The Company provides for the estimated costs to fulfill customer warranty obligations upon the recognition of the related revenue. While the Company engages in extensive product quality programs and processes, including actively monitoring and evaluating the quality of its component suppliers, the Company's warranty obligation is affected by product failure rates, utilization levels, material usage, and supplier warranties on parts delivered to the Company. Should actual product failure rates, utilization levels, material usage, or supplier warranties on parts differ from the Company estimates, revisions to the estimated warranty liability would be required.

Product warranty activity for the six months ended June 30, 2003 was as follows:

Balance as of December 31, 2002	$ 6,921
Provisions for product warranties	1,064
Direct charges to the warranty liability	(1,839)
Balance as of June 30, 2003	$ 6,146

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

MKS believes that this Quarterly Report on Form 10-Q contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. When used herein, the words "believes," "anticipates," "plans," "expects," "estimates" and similar expressions are intended to identify forward-looking statements. These forward-looking statements reflect management's current opinions and are subject to certain risks and uncertainties that could cause results to differ materially from those stated or implied. MKS assumes no obligation to update this information. Risks and uncertainties include, but are not limited to, those discussed herein in the section entitled "Factors That May Affect Future Results."

OVERVIEW

MKS develops, manufactures and provides instruments, components and integrated subsystems used to measure, control, power and monitor critical parameters of semiconductor and other advanced manufacturing process environments.

On January 31, 2002, MKS completed its acquisition of the ENI Business ("ENI") of Emerson Electric Co., a supplier of solid-state radio frequency (RF) and direct current (DC) plasma power supplies, matching networks and instrumentation to the semiconductor and thin-film processing industries. The reasons for the acquisition of ENI were based upon the ability to offer higher value and more integrated application solutions by combining ENI's solid-state power conversion technology with the Company's core competency in plasma and reactive gas solutions. The acquisition has been accounted for under the purchase method of accounting. Also in 2002, MKS acquired three companies that expanded its position in distributed computer-based process control and data management. On March 13, 2002, MKS acquired Tenta Technology Ltd. ("Tenta"), a privately held company that designs and supplies modular, computer-based process control systems for 300mm semiconductor process tool applications. On April 5, 2002, MKS acquired IPC Fab Automation GmbH ("IPC"), a privately held developer and provider of web-based hardware and software that enables e-diagnostics and advanced process control for advanced manufacturing applications. On October 1, 2002, MKS acquired EquipNet Ltd. ("EquipNet"), a privately held company that develops web-based connectivity equipment for the semiconductor industry. The results of operations of these acquired companies are included in the Company's consolidated statement of income as of and since the date of the purchase.

The Company's customers include semiconductor capital equipment manufacturers, semiconductor device manufacturers, industrial manufacturing companies and university, government and industrial research laboratories. During 2002, 2001 and 2000, MKS estimates that approximately 70%, 64% and 76% of its net sales, respectively, were to semiconductor capital equipment manufacturers and semiconductor device manufacturers. MKS expects that sales to such customers will continue to account for a substantial majority of its sales. In 2002, 2001 and 2000, sales to MKS' top ten customers accounted for approximately 49%, 39% and 52%, respectively, of MKS' net sales. During 2002, 2001 and 2000, Applied Materials, Inc. accounted for approximately 23%, 18% and 30%, respectively, of MKS' net sales.

A significant portion of MKS' sales are to operations in international markets. International sales include sales by MKS' foreign subsidiaries, but exclude direct export sales, which were less than 10% of MKS' total net sales for each of the years ended December 31, 2002, 2001 and 2000. International sales accounted for approximately 36% of net sales in 2002, 31% of net sales in 2001 and 23% of net sales in 2000. Sales by MKS' Japan subsidiary comprised 14%, 12% and 11% of net sales in 2002, 2001 and 2000, respectively.

RESULTS OF OPERATIONS

The following table sets forth for the periods indicated the percentage of total net sales of certain line items included in MKS' consolidated statement of income data.

	Three Months Ended June 30, 2003	Three Months Ended June 30, 2002	Six Months Ended June 30, 2003	Six Months Ended June 30, 2002
Net sales	100.0%	100.0%	100.0%	100.0%
Cost of sales	66.2	65.4	65.7	66.3
Gross profit	33.8	34.6	34.3	33.7
Research and development	14.1	14.0	14.7	14.6
Selling, general and administrative	21.5	24.1	22.9	26.1
Amortization of acquired intangible assets	4.4	4.8	4.8	4.3
Restructuring, asset impairment and other charges	0.4	--	0.2	--
In-process research and development	--	2.7	--	5.8
Loss from operations	(6.6)	(11.0)	(8.3)	(17.1)
Interest income, net	0.3	0.4	0.3	0.6
Loss before income taxes	(6.3)	(10.6)	(8.0)	(16.5)
Provision (benefit) for income taxes	0.4	(5.1)	0.4	(5.1)
Net loss	(6.7)%	(5.5)%	(8.4)%	(11.4)%

Net Sales. Net sales decreased 5.5% to $81.2 million for the three months ended June 30, 2003 from $85.9 million for the three months ended June 30, 2002. International net sales were approximately $33.4 million for the three months ended June 30, 2003 or 41.1% of net sales and $27.6 million for the same period of 2002 or 32.2% of net sales. The decline in net sales was due to decreased domestic demand for the Company's products from the Company's semiconductor capital equipment manufacturer and semiconductor device manufacturer customers, as compared to the second quarter of 2002.

Net sales increased 6.2% to $153.9 million for the six months ended June 30, 2003 from $145.0 million for the six months ended June 30, 2002. International net sales were approximately $63.0 million for the six months ended June 30, 2003 or 40.9% of net sales and $47.3 million for the same period of 2002 or 32.6% of net sales. MKS acquired ENI, Tenta and IPC during the six months ended June 30, 2002, and net sales for the six month period ended June 30, 2002 includes their revenues from the date of acquisition, whereas the revenues of these companies is included in net sales for the full six months of 2003. The revenues of ENI, Tenta and IPC included in the Company's net sales increased approximately $5.6 million in 2003, primarily from their inclusion for the full six months of 2003.

The semiconductor capital equipment market has experienced a significant downturn since 2001. As a result, since 2001 the Company has experienced a significant reduction in demand for its products from its semiconductor capital equipment manufacturer and semiconductor device manufacturer customers. The semiconductor capital equipment industry has been cyclical, and the Company cannot determine how long the downturn will last. In the absence of significant improvement, net sales could continue to decline or remain low, and the amount of goodwill, other long-lived assets, and inventory considered realizable could be significantly reduced.

Gross Profit. Gross profit as a percentage of net sales decreased to 33.8% for the three months ended June 30, 2003 from 34.6% for the three months ended June 30, 2002. The decrease was primarily due to a shift in product mix to new products with higher materials costs in initial production runs.

Gross profit as a percentage of net sales increased to 34.3% for the six months ended June 30, 2003 from 33.7% for the same period of 2002. The increase in gross profit percent is due to overhead costs for the six months of 2003 being a lower percentage of the higher net sales, and cost savings initiatives, offset by higher materials costs of the new products in initial production runs.

Research and Development. Research and development expense decreased 5.0% to $11.5 million or 14.1% of net sales for the three months ended June 30, 2003 from $12.1 million or 14.0% of net sales for the three months ended June 30, 2002. The decrease was primarily due to decreased expenses for project materials. Research and development expense increased 7.1% to $22.7 million or 14.7% of net sales for the six months ended June 30, 2003 from $21.2 million or 14.6% of net sales for the same period of 2002. The increase was due to increased compensation expense, primarily from including a full six months of costs in 2003 of the companies acquired during 2002.

Selling, General and Administration. Selling, general and administration expenses decreased 15.7% to $17.5 million or 21.5% of net sales for the three months ended June 30, 2003 from $20.7 million or 24.1% of net sales for the three months ended June 30, 2002. The decrease was due primarily to lower compensation expense of $0.9 million resulting from cost savings initiatives, and decreased professional fees of $1.7 million. Selling, general and administrative expenses decreased 6.6% to $35.3 million or 22.9% of net sales for the six months ended June 30, 2003 from $37.8 million or 26.1% of net sales for the same period of 2002. The decrease was due primarily to lower compensation expense of $0.5 million resulting from cost savings initiatives and decreased professional fees of $1.7 million.

Amortization of Acquired Intangible Assets. Amortization expense of $3.6 million and $7.4 million for the three and six months ended June 30, 2003 represents the amortization of the identifiable intangibles resulting from the acquisitions completed by MKS. Amortization of the identifiable intangibles was $4.1 million and $6.3 million for the three and six months ended June 30, 2002, respectively. The increase in amortization during 2003 was due to amortization of intangibles from companies acquired in 2002

Restructuring, Asset Impairment and Other Charges. During the three months ended June 30, 2003, the Company continued the consolidation of recent acquisitions and recorded restructuring, asset impairment and other charges of $0.3 million. The charges consisted of $0.1 million of severance costs related to workforce reductions, an asset impairment charge of $0.1 million primarily for assets to be disposed, and $0.1 million of professional fees related to the consolidation. The severance costs and professional fees are accrued as of June 30, 2003 and are expected to be paid by the end of 2003.

Purchase of In-process Technology. In-process research and development of $2.3 million for the three months ended June 30, 2002 consisted of $1.4 million related to the increase in the value of the in-process research and development resulting from the finalization of the ENI purchase price allocation and $0.9 million from the purchase of Tenta and IPC. In-process research and development of $8.4 million for the six months ended June 30, 2002 arose from the acquisitions the Company made in 2002.

Interest Income (Expense), Net. During the three and six months ended June 30, 2003, the Company generated net interest income of $0.3 million and $0.6 million, respectively. Interest income declined $0.3 million for the six months ended June 30, 2003 as compared to the same period of 2002, primarily from lower interest rate yields during 2003.

Provision (benefit) for Income Taxes. The Company recorded a provision for income taxes of $0.4 million and $0.7 million for the three and six months ended June 30, 2003. As a result of incurring significant operating losses since 2001, the Company determined that it is more likely than not that its deferred tax assets may not be realized, and since the fourth quarter of 2002 has established a full valuation allowance for its net deferred tax assets. Accordingly, the Company has not recorded a deferred tax benefit from the net operating loss incurred in the three and six months ended June 30, 2003. The provision for income taxes in 2003 is comprised of tax expense from foreign operations and state taxes. Until an appropriate level of profitability is reached, the Company will not record deferred tax benefits from its net operating losses in future results of operations.

The effective tax rates for the three and six months ended June 30, 2002 were a benefit of 49% and 31%, respectively, and differed from the statutory rate of 35% due to favorable tax attributes from its foreign subsidiaries, partially offset by non-deductible charges associated with acquisitions made in 2002.

LIQUIDITY AND CAPITAL RESOURCES

The Company has financed its operations and capital requirements through a combination of cash provided by operations, long-term real estate financing, capital lease financing and short-term borrowings.

Operations used cash of $4.7 million for the six months ended June 30, 2003. The cash flow from operations for the six months ended June 30, 2003 was impacted by the net loss of $12.9 million, offset by non-cash charges included in the net loss for depreciation and amortization of $15.0 million. Additionally, changes in operating assets and liabilities reduced cash by $6.7 million, primarily from an increase in accounts receivable of $5.0 million and a decrease in accrued expenses of $3.0 million, partially offset by changes in accounts payable of $2.7 million. Investing activities utilized cash of $13.6 million for the six months ended June 30, 2003 primarily from purchases of available-for-sale investments. Financing activities used cash of $3.4 million, primarily for payments on debt. Working capital was $191.5 million as of June 30, 2003, a decrease of $0.5 million from December 31, 2002. As of June 30, 2003 the Company had a combined $40.0 million unsecured line of credit with two large domestic banks. There were no borrowings made under the line of credit. The Company decided not to renew the line of credit upon its expiration on July 31, 2003.

MKS believes that its working capital, together with the cash anticipated to be generated from operations will be sufficient to satisfy its estimated working capital and planned capital expenditure requirements through at least the next 12 months.

FACTORS THAT MAY AFFECT FUTURE RESULTS

MKS' BUSINESS DEPENDS SUBSTANTIALLY ON CAPITAL SPENDING IN THE SEMICONDUCTOR INDUSTRY WHICH IS CHARACTERIZED BY PERIODIC FLUCTUATIONS THAT MAY CAUSE A REDUCTION IN DEMAND FOR MKS' PRODUCTS.

MKS estimates that approximately 70% of its sales during 2002, 64% of its sales during 2001, and 76% of its sales during 2000 were to semiconductor capital equipment manufacturers and semiconductor device manufacturers, and it expects that sales to such customers will continue to account for a substantial majority of its sales. MKS' business depends upon the capital expenditures of semiconductor device manufacturers, which in turn depend upon the demand for semiconductors. Periodic reductions in demand for the products manufactured by semiconductor capital equipment manufacturers and semiconductor device manufacturers may adversely affect MKS' business, financial condition and results of operations. Historically, the semiconductor market has been highly cyclical and has experienced periods of overcapacity, resulting in significantly reduced demand for capital equipment. For example, in 1996 and 1998, the semiconductor capital equipment industry experienced significant declines, which caused a number of MKS' customers to reduce their orders. More recently, in 2001, 2002 and 2003, MKS has experienced a significant reduction in demand from OEM customers, and lower gross margins due to reduced absorption of manufacturing overhead. MKS incurred significant charges for excess and obsolete inventory of $16.6 million in 2001. The charges were primarily caused by a significant reduction in demand including reduced demand for older technology products. In addition, many semiconductor manufacturers have operations and customers in Asia, a region which in recent years has experienced serious economic problems including currency devaluations, debt defaults, lack of liquidity and recessions. MKS cannot be certain that semiconductor downturns will not continue or recur. A decline in the level of orders as a result of any future downturn or slowdown in the semiconductor capital equipment industry could have a material adverse effect on MKS' business, financial condition and results of operations.

MKS' QUARTERLY OPERATING RESULTS HAVE VARIED, AND ARE LIKELY TO CONTINUE TO VARY SIGNIFICANTLY. THIS MAY RESULT IN VOLATILITY IN THE MARKET PRICE FOR MKS' SHARES.

A substantial portion of MKS' shipments occur shortly after an order is received and therefore MKS operates with a low level of backlog. As a result, a decrease in demand for MKS' products from one or more customers could occur with limited advance notice and could have a material adverse effect on MKS' results of operations in any particular period. A significant percentage of MKS' expenses are relatively fixed and based in part on expectations of future net sales. The inability to adjust spending quickly enough to compensate for any shortfall would magnify the adverse impact of a shortfall in net sales on MKS' results of operations. Factors that could cause fluctuations in MKS' net sales include:

- the timing of the receipt of orders from major customers;
- shipment delays;
- disruption in sources of supply;
- seasonal variations of capital spending by customers;

- production capacity constraints; and
- specific features requested by customers.

For example, MKS was in the process of increasing its production capacity when the semiconductor capital equipment market began to experience a significant downturn in 1996. This downturn had a material adverse effect on MKS' operating results in the second half of 1996 and the first half of 1997. After an increase in business in the latter half of 1997, the market experienced another downturn in 1998, which had a material adverse effect on MKS' 1998 and first quarter 1999 operating results. More recently, the semiconductor capital equipment market experienced a significant downturn during 2001, 2002 and 2003. As a result, MKS has experienced a reduction in demand from OEM customers, which has had a material adverse effect on MKS' operating results. During 2001 gross margins were negatively affected by significant charges for excess and obsolete inventory of $16.6 million in 2001. The charges were primarily caused by a significant reduction in demand including reduced demand for older technology products. As a result of the factors discussed above, it is likely that MKS will in the future experience quarterly or annual fluctuations and that, in one or more future quarters, its operating results will fall below the expectations of public market analysts or investors. In any such event, the price of MKS' common stock could decline significantly.

THE LOSS OF NET SALES TO ANY ONE OF MKS' MAJOR CUSTOMERS WOULD LIKELY HAVE A MATERIAL ADVERSE EFFECT ON MKS.

MKS' top ten customers accounted for approximately 49% of its net sales in 2002, 39% of its net sales in 2001 and 52% of its net sales in 2000. The loss of a major customer or any reduction in orders by these customers, including reductions due to market or competitive conditions, would likely have a material adverse effect on MKS' business, financial condition and results of operations. During 2002, 2001 and 2000, one customer, Applied Materials, accounted for approximately 23%, 18% and 30%, respectively, of MKS' net sales. None of MKS' significant customers, including Applied Materials, has entered into an agreement requiring it to purchase any minimum quantity of MKS' products. The demand for MKS' products from its semiconductor capital equipment customers depends in part on orders received by them from their semiconductor device manufacturer customers.

Attempts to lessen the adverse effect of any loss or reduction through the rapid addition of new customers could be difficult because prospective customers typically require lengthy qualification periods prior to placing volume orders with a new supplier. MKS' future success will continue to depend upon:

- its ability to maintain relationships with existing key customers;
- its ability to attract new customers; and
- the success of its customers in creating demand for their capital equipment products which incorporate MKS' products.

AS PART OF MKS' BUSINESS STRATEGY, MKS HAS ENTERED INTO AND MAY ENTER INTO OR SEEK TO ENTER INTO BUSINESS COMBINATIONS AND ACQUISITIONS THAT MAY BE DIFFICULT TO INTEGRATE, DISRUPT ITS BUSINESS, DILUTE STOCKHOLDER VALUE OR DIVERT MANAGEMENT ATTENTION.

MKS acquired Compact Instrument Technology, LLC ("Compact Instrument") in March 2000, Telvac Engineering, Ltd. ("Telvac") in May 2000, Spectra Instruments, LLC ("Spectra") in July 2000, D.I.P., Inc. ("D.I.P.") in September 2000, Applied Science and Technology, Inc. ("ASTeX") in January 2001, On-Line Technologies, Inc. ("On-Line") in April 2001, the ENI Business ("ENI") of Emerson Electric Co. in January 2002, Tenta Technology Ltd. ("Tenta") in March 2002, IPC Fab Automation GmbH ("IPC") in April 2002 and EquipNet Ltd. ("EquipNet") in October 2002. As a part of its business strategy, MKS may enter into additional business combinations and acquisitions. Acquisitions are typically accompanied by a number of risks, including the difficulty of integrating the operations and personnel of the acquired companies, the potential disruption of MKS' ongoing business and distraction of management, expenses related to the acquisition and potential unknown liabilities associated with acquired businesses.

As a result of its recent acquisitions, the Company has added several different decentralized accounting systems, resulting in a complex reporting environment. The Company expects that it will need to continue to modify its accounting policies, internal controls, procedures and compliance programs to provide consistency across all its operations.

If MKS is not successful in completing acquisitions that it may pursue in the future, it may be required to reevaluate its growth strategy, and MKS may have incurred substantial expenses and devoted significant management time and resources in seeking to complete proposed acquisitions that will not generate benefits for it.

In addition, with future acquisitions, MKS could use substantial portions of its available cash as all or a portion of the purchase price. MKS could also issue additional securities as consideration for these acquisitions, which could cause significant stockholder dilution. MKS' acquisitions of Compact Instrument, Telvac, Spectra, D.I.P., ASTeX, On-Line, ENI, Tenta, IPC, and EquipNet and any future acquisitions may not ultimately help MKS achieve its strategic goals and may pose other risks to MKS.

AN INABILITY TO CONVINCE SEMICONDUCTOR DEVICE MANUFACTURERS TO SPECIFY THE USE OF MKS' PRODUCTS TO MKS' CUSTOMERS, WHO ARE SEMICONDUCTOR CAPITAL EQUIPMENT MANUFACTURERS, WOULD WEAKEN MKS' COMPETITIVE POSITION.

The markets for MKS' products are highly competitive. Its competitive success often depends upon factors outside of its control. For example, in some cases, particularly with respect to mass flow controllers, semiconductor device manufacturers may direct semiconductor capital equipment manufacturers to use a specified supplier's product in their equipment. Accordingly, for such products, MKS' success will depend in part on its ability to have semiconductor device manufacturers specify that MKS' products be used at their semiconductor fabrication facilities. In addition, MKS may encounter difficulties in changing established relationships of competitors that already have a large installed base of products within such semiconductor fabrication facilities.

IF MKS' PRODUCTS ARE NOT DESIGNED INTO SUCCESSIVE NEW GENERATIONS OF ITS CUSTOMERS' PRODUCTS, MKS WILL LOSE SIGNIFICANT NET SALES DURING THE LIFESPAN OF THOSE PRODUCTS.

New products designed by semiconductor capital equipment manufacturers typically have a lifespan of five to ten years. MKS' success depends on its products being designed into new generations of equipment for the semiconductor industry. MKS must develop products that are technologically current so that they are positioned to be chosen for use in each successive new generation of semiconductor capital equipment. If MKS products are not chosen by its customers, MKS' net sales may be reduced during the lifespan of its customers' products. In addition, MKS must make a significant capital investment to develop products for its customers well before its products are introduced and before it can be sure that it will recover its capital investment through sales to the customers in significant volume. MKS is thus also at risk during the development phase that its products may fail to meet its customers' technical or cost requirements and may be replaced by a competitive product or alternative technology solution. If that happens, MKS may be unable to recover MKS' development costs.

THE SEMICONDUCTOR INDUSTRY IS SUBJECT TO RAPID DEMAND SHIFTS WHICH ARE DIFFICULT TO PREDICT. AS A RESULT, MKS' INABILITY TO EXPAND ITS MANUFACTURING CAPACITY IN RESPONSE TO THESE RAPID SHIFTS MAY CAUSE A REDUCTION IN ITS MARKET SHARE.

MKS' ability to increase sales of certain products depends in part upon its ability to expand its manufacturing capacity for such products in a timely manner. If MKS is unable to expand its manufacturing capacity on a timely basis or to manage such expansion effectively, its customers could implement its competitors' products and, as a result, its market share could be reduced. Because the semiconductor industry is subject to rapid demand shifts which are difficult to foresee, MKS may not be able to increase capacity quickly enough to respond to a rapid increase in demand in the semiconductor industry. Additionally, capacity expansion could increase MKS' fixed operating expenses and if sales levels do not increase to offset the additional expense levels associated with any such expansion, its business, financial condition and results of operations could be materially adversely affected.

SALES TO FOREIGN MARKETS CONSTITUTE A SUBSTANTIAL PORTION OF MKS' NET SALES; THEREFORE, MKS' NET SALES AND RESULTS OF OPERATIONS COULD BE ADVERSELY AFFECTED BY DOWNTURNS IN ECONOMIC CONDITIONS IN COUNTRIES OUTSIDE OF THE UNITED STATES.

International sales include sales by MKS' foreign subsidiaries, but exclude direct export sales, which were less than 10% of MKS' total net sales for each of the years ended December 31, 2002, 2001 and 2000. International sales accounted for approximately 36% of net sales in 2002, 31% of net sales in 2001 and 23% of net sales in 2000.

MKS anticipates that international sales will continue to account for a significant portion of MKS' net sales. In addition, certain of MKS' key domestic customers derive a significant portion of their revenues from sales in international markets. Therefore, MKS' sales and results of operations could be adversely affected by economic slowdowns and other risks associated with international sales.

RISKS RELATING TO MKS' INTERNATIONAL OPERATIONS COULD ADVERSELY AFFECT MKS' OPERATING RESULTS.

MKS has substantial international sales, service and manufacturing operations in Europe and Asia, which exposes MKS to foreign operational and political risks that may harm MKS' business. MKS' international operations are subject to inherent risks, which may adversely affect MKS, including:

- political and economic instability in countries where MKS has sales, service and manufacturing operations, particularly in Asia;
- fluctuations in the value of currencies and high levels of inflation, particularly in Asia and Europe;
- changes in labor conditions and difficulties in staffing and managing foreign operations, including, but not limited to, labor unions;
- greater difficulty in collecting accounts receivable and longer payment cycles;
- burdens and costs of compliance with a variety of foreign laws;
- increases in duties and taxation;
- imposition of restrictions on currency conversion or the transfer of funds;
- changes in export duties and limitations on imports or exports;
- expropriation of private enterprises; and
- unexpected changes in foreign regulations.

If any of these risks materialize, MKS' operating results may be adversely affected.

UNFAVORABLE CURRENCY EXCHANGE RATE FLUCTUATIONS MAY LEAD TO LOWER GROSS MARGINS, OR MAY CAUSE MKS TO RAISE PRICES WHICH COULD RESULT IN REDUCED SALES.

Currency exchange rate fluctuations could have an adverse effect on MKS' net sales and results of operations and MKS could experience losses with respect to its hedging activities. Unfavorable currency fluctuations could require MKS to increase prices to foreign customers which could result in lower net sales by MKS to such customers. Alternatively, if MKS does not adjust the prices for its products in response to unfavorable currency fluctuations, its results of operations could be adversely affected. In addition, sales made by MKS' foreign subsidiaries are denominated in the currency of the country in which these products are sold and the currency it receives in payment for such sales could be less valuable at the time of receipt as a result of exchange rate fluctuations. MKS enters into forward exchange contracts and local currency purchased options to reduce currency exposure arising from intercompany sales of inventory. However, MKS cannot be certain that its efforts will be adequate to protect it against significant currency fluctuations or that such efforts will not expose it to additional exchange rate risks.

KEY PERSONNEL MAY BE DIFFICULT TO ATTRACT AND RETAIN.

MKS' success depends to a large extent upon the efforts and abilities of a number of key employees and officers, particularly those with expertise in the semiconductor manufacturing and similar industrial manufacturing industries. The loss of key employees or officers could have a material adverse effect on MKS' business, financial condition and results of operations. MKS believes that its future success will depend in part on its ability to attract and retain highly skilled technical, financial, managerial and marketing personnel. MKS cannot be certain that it will be successful in attracting and retaining such personnel.

MKS' PROPRIETARY TECHNOLOGY IS IMPORTANT TO THE CONTINUED SUCCESS OF ITS BUSINESS. MKS' FAILURE TO PROTECT THIS PROPRIETARY TECHNOLOGY MAY SIGNIFICANTLY IMPAIR MKS' COMPETITIVE POSITION.

As of December 31, 2002, MKS owned 170 U.S. patents and 128 foreign patents and had 89 pending U.S. patent applications and 286 pending foreign patent applications. Although MKS seeks to protect its intellectual property rights through patents, copyrights, trade secrets and other measures, it cannot be certain that:

- MKS will be able to protect its technology adequately;
- competitors will not be able to develop similar technology independently;
- any of MKS' pending patent applications will be issued;
- intellectual property laws will protect MKS' intellectual property rights; or
- third parties will not assert that MKS' products infringe patent, copyright or trade secrets of such parties.

PROTECTION OF MKS' INTELLECTUAL PROPERTY RIGHTS MAY RESULT IN COSTLY LITIGATION.

Litigation may be necessary in order to enforce MKS' patents, copyrights or other intellectual property rights, to protect its trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. MKS has been involved in lawsuits enforcing its intellectual property rights in the past, and may be involved in such litigation in the future. Such litigation could result in substantial costs and diversion of resources and could have a material adverse effect on MKS' business, financial condition and results of operations.

THE MARKET PRICE OF MKS' COMMON STOCK HAS FLUCTUATED AND MAY CONTINUE TO FLUCTUATE FOR REASONS OVER WHICH MKS HAS NO CONTROL.

The stock market has from time to time experienced, and is likely to continue to experience, extreme price and volume fluctuations. Recently, prices of securities of technology companies have been especially volatile and have often fluctuated for reasons that are unrelated to the operating performance of the companies. The market price of shares of MKS' common stock has fluctuated greatly since its initial public offering and could continue to fluctuate due to a variety of factors. In the past, companies that have experienced volatility in the market price of their stock have been the objects of securities class action litigation. If MKS were the object of securities class action litigation, it could result in substantial costs and a diversion of MKS' management's attention and resources.

MKS' DEPENDENCE ON SOLE, LIMITED SOURCE SUPPLIERS, AND INTERNATIONAL SUPPLIERS, COULD AFFECT ITS ABILITY TO MANUFACTURE PRODUCTS AND SYSTEMS.

MKS relies on sole, limited source suppliers, and international suppliers, for a few of its components and subassemblies that are critical to the manufacturing of MKS' products. This reliance involves several risks, including the following:

- the potential inability to obtain an adequate supply of required components;
- reduced control over pricing and timing of delivery of components; and
- the potential inability of its suppliers to develop technologically advanced products to support MKS' growth and development of new systems.

MKS believes that in time MKS could obtain and qualify alternative sources for most sole, limited source and international supplier parts. Seeking alternative sources of the parts could require MKS to redesign its systems, resulting in increased costs and likely shipping delays. MKS may be unable to redesign its systems, which could result in further costs and shipping delays. These increased costs would decrease MKS' profit margins if it could not pass the costs to its customers. Further, shipping delays could damage MKS' relationships with current and potential customers and have a material adverse effect on MKS' business and results of operations.

MKS IS SUBJECT TO GOVERNMENTAL REGULATIONS.

MKS is subject to federal, state, local and foreign regulations, including environmental regulations and regulations relating to the design and operation of MKS' power supply products. MKS must ensure that these systems meet certain safety standards, many of which vary across the countries in which MKS' systems are used. For example, the European Union has published directives specifically relating to power supplies. MKS must comply with these directives in order to ship MKS' systems into countries that are members of the European Union. MKS believes it is in compliance with current applicable regulations, directives and standards and has obtained all necessary permits, approvals, and authorizations to conduct MKS' business. However, compliance with future regulations, directives and standards could require it to modify or redesign certain systems, make capital expenditures or incur substantial costs. If MKS does not comply with current or future regulations, directives and standards:

- MKS could be subject to fines;
- MKS' production could be suspended; or
- MKS could be prohibited from offering particular systems in specified markets.

CERTAIN STOCKHOLDERS HAVE A SUBSTANTIAL INTEREST IN MKS AND MAY BE ABLE TO EXERT SUBSTANTIAL INFLUENCE OVER MKS' ACTIONS.

As of January 31, 2003, John R. Bertucci, president, chairman and chief executive officer of MKS, and certain members of his family, in the aggregate, beneficially owned approximately 22.7% of MKS' outstanding common stock. As a result, these stockholders, acting together, are able to exert substantial influence over the actions of MKS. Pursuant to the acquisition of the ENI Business of Emerson Electric Co. ("Emerson"), MKS issued approximately 12,000,000 shares of common stock to Emerson. As of January 31, 2003, Emerson beneficially owned approximately 23.4% of MKS' outstanding common stock, and accordingly, Emerson is able to exert substantial influence over MKS' actions.

SOME PROVISIONS OF MKS' RESTATED ARTICLES OF ORGANIZATION, AS AMENDED, MKS' AMENDED AND RESTATED BY-LAWS AND MASSACHUSETTS LAW COULD DISCOURAGE POTENTIAL ACQUISITION PROPOSALS AND COULD DELAY OR PREVENT A CHANGE IN CONTROL OF MKS.

Anti-takeover provisions could diminish the opportunities for stockholders to participate in tender offers, including tender offers at a price above the then current market value of the common stock. Such provisions may also inhibit increases in the market price of the common stock that could result from takeover attempts. For example, while MKS has no present plans to issue any preferred stock, MKS' board of directors, without further stockholder approval, may issue preferred stock that could have the effect of delaying, deterring or preventing a change in control of MKS. The issuance of preferred stock could adversely affect the voting power of the holders of MKS' common stock, including the loss of voting control to others. In addition, MKS' amended and restated by-laws provide for a classified board of directors consisting of three classes. The classified board could also have the effect of delaying, deterring or preventing a change in control of MKS.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Information concerning market risk is contained in the Management's Discussion and Analysis of Financial Condition and Results of Operations contained in the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2003. MKS enters into local currency purchased options and forward exchange contracts to reduce currency exposure arising from intercompany sales of inventory. There were no material changes in MKS' exposure to market risk from December 31, 2002.

ITEM 4. CONTROLS AND PROCEDURES.

The Company's management, with the participation of the Company's chief executive officer and chief financial officer, evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of June 30, 2003. Based on this evaluation, the Company's chief executive officer and chief financial officer concluded that, as of June 30, 2003, the Company's disclosure controls and procedures were (1) designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company's chief executive officer and chief financial officer by others within those entities, particularly during the period in which this report was being prepared and (2) effective, in that they provide reasonable assurance that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms.

No change in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended June 30, 2003 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

On April 3, 2003, Advanced Energy Industries, Inc. ("Advanced Energy") filed suit against MKS in federal district court in Colorado ("Colorado Action"), seeking a declaratory judgment that Advanced Energy's Xstream product does not infringe three patents held by Applied Science and Technology, Inc. ("ASTeX"), a subsidiary of MKS. MKS has filed a motion to dismiss Advanced Energy's complaint, and that motion is now pending before the Colorado court. On May 14, 2003, MKS and ASTeX brought suit in federal district court in Delaware against Advanced Energy for infringement of five ASTeX patents, including the three patents at issue in the Colorado Action. MKS and ASTeX seek injunctive relief and damages for Advanced Energy's infringement. Advanced Energy has moved to dismiss this suit in favor of Advanced Energy's Colorado Action, and MKS has opposed Advanced Energy's motion. Advanced Energy's motion to dismiss is now pending before the Delaware court. Both of these cases are in the early stages of pre-trial discovery.

On November 3, 1999, On-Line Technologies, Inc. ("On-Line"), which was acquired by the Company in April 2001, brought suit in federal district court in Connecticut against Perkin-Elmer, Inc. and certain other defendants for infringement of On-Line's patent related to its FTIR spectrometer product. The suit sought injunctive relief and damages for infringement. Perkin-Elmer, Inc. filed a counterclaim seeking invalidity of the patent, costs, and attorneys' fees. In June 2002, the defendants filed a motion for summary judgment. In April 2003 the court granted the motion and dismissed the case. The Company has appealed this decision.

There have been no other material developments since the filing of MKS' Quarterly Report on Form 10-Q on May 8, 2003.

ITEM 2. CHANGES IN SECURITIES AND USE OF PROCEEDS.

(d) Use of Proceeds from Sales of Registered Securities.

The Company has previously provided information on Form 10-Q for the quarter ended September 30, 2000 relating to the use of proceeds from the sale of securities by the Company pursuant to the Registration Statement on Form

S-1 (Reg. No. 333-71363) that was declared effective by the Securities and Exchange Commission on March 29, 1999. As of June 30, 2003, approximately $32.2 million of the net proceeds from the securities sold has been used to acquire businesses. There has been no other change to the information previously provided.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

None.

ITEM 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITY HOLDERS.

At the Company's Annual Meeting of Stockholders held on May 14, 2003 (the "Annual Meeting"), the following proposals were approved as further specified below:

1. Election of Directors:

	Votes For	Votes Withheld
Hans-Jochen Kahl	46,394,881	830,685
Louis P. Valente	46,136,718	1,088,848

2. Ratification of appointment of PricewaterhouseCoopers LLP as independent accountants for the fiscal year ending December 31, 2003.

Votes For	Votes Against	Votes Abstaining	Broker Non-Votes
46,191,279	1,002,128	32,159	0

ITEM 5. OTHER INFORMATION.

None.

ITEM 6. EXHIBITS AND REPORTS ON FORM 8-K.

(a) Exhibits

Exhibit No.	Exhibit Description
10.1	Amended and Restated 1997 Director Stock Option Plan
31.1	Certification of Principal Executive Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended
31.2	Certification of Principal Financial Officer pursuant to Rule 13a-14(a)/Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

(b) Reports on Form 8-K

On April 17, 2003, the Company furnished a Current Report on Form 8-K announcing the Company's financial results for the quarter ended March 31, 2003 under "Item 9. Regulation FD Disclosure" (Information furnished pursuant to Item 12. "Disclosure of Results of Operations and Financial Condition"). The full text of the press release issued in connection with the announcement, including financial statements, was attached as Exhibit 99.1 to this Current Report on Form 8-K.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

MKS INSTRUMENTS, INC.

August 13, 2003

By: /s/ Ronald C. Weigner

Ronald C. Weigner
Vice President and Chief Financial
Officer (Principal Financial Officer)

Exhibit 10.1

MKS INSTRUMENTS, INC.

AMENDED AND RESTATED 1997 DIRECTOR STOCK OPTION PLAN

1. Purpose.

The purpose of this Amended and Restated 1997 Director Stock Option Plan (the "Plan") of MKS Instruments, Inc., a Massachusetts corporation (the "Company"), is to encourage ownership in the Company by non-employee directors of the Company whose continued services are considered essential to the Company's future progress and to provide them with a further incentive to remain as directors of the Company.

2. Administration.

The Board of Directors shall supervise and administer the Plan. Grants of stock options under the Plan and the amount and nature of the awards to be granted shall be automatic in accordance with Section 5. However, all questions of interpretation of the Plan or of any options issued under it shall be determined by the Board of Directors and such determination shall be final and binding upon all persons having an interest in the Plan.

3. Participation in the Plan.

Directors of the Company who are not employees of the Company or any subsidiary of the Company shall be eligible to participate in the Plan.

4. Stock subject to the Plan.

(a) Definition of Common Stock. "Common Stock" means (i) prior to the closing of the Company's initial public offering of common stock pursuant to an effective registration statement under the Securities Act of 1933 ("IPO"), the Class B Common Stock, no par value per share, of the Company, and (ii) from and after the closing of the IPO, the Common Stock, no par value per share, of the Company.

(b) The maximum number of shares of the Company's Common Stock which may be issued under the Plan shall be 200,000 shares, subject to adjustment as provided in Section 7. All share amounts set forth in this Plan reflect all stock splits effected prior to April 16, 2003 (the "Restatement Date").

(c) If any outstanding option under the Plan for any reason expires or is terminated without having been exercised in full, the shares allocable to the unexercised portion of such option shall again become available for grant pursuant to the Plan.

(d) All options granted under the Plan shall be nonstatutory options not entitled to special tax treatment under Section 422 of the Internal Revenue Code of 1986, as amended to date and as it may be amended from time to time (the "Code").

5. Terms, Conditions and Form of Options.

Each option granted under the Plan shall be evidenced by a written agreement in such form as the Board of Directors shall from time to time approve, which agreements shall comply with and be subject to the following terms and conditions:

(a) Option Grant Dates. Options shall automatically be granted to all eligible outside directors as follows:

(i) each person who first becomes an eligible outside director after the Restatement Date shall be granted an option to purchase 20,000 shares of Common Stock on the date of his or her initial election to the Board of Directors; and

(ii) each eligible outside director then in office on the date of each annual meeting of stockholders of the Company shall be granted an additional option to purchase 12,000 shares of Common Stock on the date of each such annual meeting of stockholders, provided that he or she was elected to serve as a director of the Company at least six months prior to the date of such meeting.

(b) Option Exercise Price. The option exercise price per share for each option granted under the Plan shall equal (i) the last reported sales price per share of the Company's Common Stock on the Nasdaq National Market (or, if the Common Stock is traded on a national securities exchange on the date of grant, the reported closing sales price per share of the Common Stock on such exchange) on the date of grant (or if no such price is reported on such date such price as reported on the nearest preceding day), (ii) if the Common Stock is not traded on the Nasdaq National Market or a national securities exchange, the fair market value per share on the date of grant as determined by the Board of Directors or (iii) the average of the closing bid and asked prices in the over-the-counter market.

(c) Transferability of Options. Except as the Board of Directors of the Company may otherwise determine or provide in a written agreement entered into in connection with the grant of an option under the Plan, options shall not be sold, assigned, transferred, pledged or otherwise encumbered by the Optionee, either voluntarily or by operation of law except by will or the laws of descent and distribution, and during the life of the optionee and shall be exercisable only by him. Reference to an optionee, to the extent relevant in the context, shall include references to authorized transferees.

(d) Vesting Period. Except as the Board may otherwise determine or provide in a written agreement entered into in connection with the grant of an option under the Plan, each option granted pursuant to paragraph (a)(i) of this Section 5 shall become exercisable in twelve (12) equal quarterly installments following the date of grant. Each option granted pursuant to paragraph (a)(ii) of this Section 5 shall become fully exercisable on the day prior to the first annual meeting of stockholders of the Company following the date of grant (or if no such meeting is held within thirteen (13) months after the date of grant, on the thirteen-month anniversary of the date of grant).

(e) Termination. Upon termination of an optionee's service as a director of the Company, each option held by him which was granted prior to the Restatement Date may be exercised during the three-month period following such termination of service and each option held by him which was granted on or after the Restatement Date may be exercised during the one-year period following such termination of service, in each case as to the exercisable portion of such option as of the date of termination, provided that (i) no option may be exercised more than ten (10) years after the date of grant and (ii) in the event an optionee ceases to serve as a director due to his death or disability (within the meaning of Section 22(e)(3) of the Code or any successor provision), each option may be exercised, with respect to options granted prior to the Restatement Date, within the period of 180 days following the date the optionee ceases to serve as a director, and, with respect to options granted on or after the Restatement Date, within the one-year period following the date the optionee ceases to serve as a director, in each case by the optionee or by the person to whom the option is transferred by will, by the laws of descent and distribution, or by written notice, as to the portion of the option that is exercisable on the date of death or disability and as to the additional portion that would have become exercisable on the next anniversary date of the date of grant of such option.

(f) Exercise Procedure. Options may be exercised only by written notice to the Company at its principal office accompanied by (i) payment in cash of the full consideration for the shares as to which they are exercised or (ii) an irrevocable undertaking, in form and substance satisfactory to the Company, by a broker to deliver promptly to the Company sufficient funds to pay the exercise price or delivery of irrevocable instructions, in form and substance satisfactory to the Company, to a broker to deliver promptly to the Company cash or a check sufficient to pay the exercise price.

(g) Exercise by Representative Following Death of Director. An optionee, by written notice to the Company, may designate one or more persons (and from time to time change such designation), including his or her legal representative, who, by reason of the director's death, shall acquire the right to exercise all or a portion of the option. If the person or persons so designated wish to exercise any portion of the option, they must do so within the term of the option as provided herein. Any exercise by a representative shall be subject to the provisions of the Plan.

6. Limitation of Rights.

(a) No Right to Continue as a Director. Neither the Plan, nor the granting of an option nor any other action taken pursuant to the Plan, shall constitute or be evidence of any agreement or understanding, express or implied, that the Company will retain the optionee as a director for any period of time.

(b) No Stockholders' Rights for Options. An optionee shall have no rights as a stockholder with respect to the shares covered by his options until the date of the issuance to him of a stock certificate therefor, and no adjustment will be made for dividends or other rights (except as provided in Section 7) for which the record date is prior to the date such certificate is issued.

7. Changes in Common Stock.

(a) If, at any time after the Restatement Date, the outstanding shares of Common Stock are increased, decreased or exchanged for a different number or kind of shares or other securities, or if additional shares or new or different shares or other securities are distributed with respect to such shares of Common Stock or other securities, through merger, consolidation, sale of all or substantially all of the assets of the Company, reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other distribution with respect to such shares of Common Stock, or other securities, an appropriate and proportionate adjustment will be made in (i) the maximum number and kind of shares reserved for issuance under the Plan, (ii) the number and kind of shares or other securities issuable pursuant to Sections 5(a)(i) and 5(a)(ii) above, (iii) the number and kind of shares or other securities subject to then outstanding options under the Plan and (iv) the price for each share subject to any then outstanding options under the Plan, without changing the aggregate purchase price as to which such options remain exercisable. No fractional shares will be issued under the Plan on account of any such adjustments.

(b) In the event of (i) a consolidation, merger or other reorganization in which all of the outstanding shares of Common Stock are exchanged for securities, cash or other property of any other corporation or business entity or (ii) any sale of all or substantially all of the Company's assets (in either event, an "Acquisition"), all options outstanding under the Plan immediately prior to the effective date of such Acquisition shall become automatically exercisable in full upon the effective date of such Acquisition.

8. Amendment of the Plan.

The Board of Directors may suspend or discontinue the Plan or revise or amend it in any respect whatsoever; provided, however, that without approval of the stockholders of the Company no revision or amendment shall change the number of shares subject to the Plan (except as provided in Section 7).

9. Notice.

Any written notice to the Company required by any of the provisions of the Plan shall be addressed to the Chief Financial Officer of the Company and shall become effective when it is received.

10. Governing Law.

The Plan and all determinations made and actions taken pursuant hereto shall be governed by the laws of The Commonwealth of Massachusetts.

Adopted by the Board of Directors
on December 31, 1997;
Approved by the Stockholders
on January 9, 1998;
Amendments and restatement
approved by the Board of Directors
on April 16, 2003

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a)/RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, John R. Bertucci, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of MKS Instruments, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) [Paragraph omitted in accordance with SEC transition instructions contained in SEC Release 34-47986]

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 13, 2003

/s/ John R. Bertucci

John R. Bertucci
Chairman, Chief Executive Officer & President
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a)/RULE 15d-14(a) OF THE
SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

I, Ronald C. Weigner, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of MKS Instruments, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) [Paragraph omitted in accordance with SEC transition instructions contained in SEC Release 34-47986]

    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 13, 2003

/s/ Ronald C. Weigner

Ronald C. Weigner
Vice President & Chief Financial Officer
(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER

PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of MKS Instruments, Inc. (the "Company") for the period ended June 30, 2003 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, John R. Bertucci, Chairman, Chief Executive Officer and President of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 13, 2003

/s/ John R. Bertucci

John R. Bertucci
Chairman, Chief Executive Officer and President

EXHIBIT 32.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER

PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO

SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of MKS Instruments, Inc. (the "Company") for the period ended June 30, 2003 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Ronald C. Weigner, Vice President and Chief Financial Officer of the Company, hereby certifies, pursuant to 18 U.S.C. Section 1350, that:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 13, 2003

/s/ Ronald C. Weigner

Ronald C. Weigner
Vice President and Chief Financial Officer