MAY 31 1994

License No: 29-00117-06
37-01531-08
Docket No: 030-14680
030-17552
Control No: 113032
113033

Merck & Co., Inc.
ATTN: Judy C. Lewent
Senior Vice President & Chief Financial Officer
One Merck Drive
P.O. Box 100
Whitehouse Station, New Jersey 08889-0100

Dear Ms. Lewent:

Subject: Financial Assurance for Decommissioning

This is in reference to your submittals dated July 25, 1990, October 29, 1993 and November 5, 1993 to provide financial assurance for License Nos. 29-00117-06 and 37-01531-08. We have reviewed these documents and have no further questions at this time.

Based on the information provided in the above referenced documents, you are presently in compliance with the financial assurance requirements outlined in the decommissioning rule in 10 CFR 30.35.

If you have any questions, please contact Anthony Dimitriadis, of my staff, at (610) 337-6953.

Your cooperation with us is appreciated.

Sincerely,

Original Signed By:
Mohamed M. Shanbaky

Mohamed M. Shanbaky, Chief
Research and Development Section
Division of Radiation Safety
and Safeguards

OFFICIAL RECORD COPY - C:\BACKUP.P1\MERCK22.FA - 05/23/94

NRC 10

cc:
Merck Sharp & Dohme Research Laboratories
Division of Merck & Co., Inc.
ATTN: Martin F. Malkin, Ph.D.
Executive Director, Planning & Management
P.O. Box 2000
Rahway, New Jersey 07065

Merck Sharp & Dohme Research Laboratories
Division of Merck & Co., Inc.
ATTN: Edwin A. Wurtz, Ph.D.
Associate Director Health Physics
Biosafety and Enviornmental Affairs
P.O. Box 2000
Rahway, New Jersey 07065

bcc:
M. Shanbaky, RI
A. Dimitriadis, RI

DRSS:RI
Dimitriadis
05/23/94

DRSS:RI
Shanbaky
MS
05/27/94

OFFICIAL RECORD COPY - C:\BACKUP.P1\MERCK22.FA - 05/23/94

NOTE TO DMB:

THE ATTACHED DOCUMENTS ARE TO BE PROCESSED AS ONE FINANCIAL ASSURANCE FOR DECOMMISSIONING PACKAGE.

LICENSE NUMBER: 29-00117-06

DOCKET NUMBER: 030-14680

CONTROL NUMBER: 113032

THIS SHEET MAY BE DISCARDED AFTER PROCESSING.

THANK YOU!

PMMEKCM

DEC 08 1993

Docket Nos. 030-14680
030-17552
License Nos. 29-00117-06
37-01531-08
Control Nos. 113032
113033

MEMORANDUM FOR: John H. Austin, Chief
Decommissioning and Regulatory Issues Branch

FROM: Ronald R. Bellamy, Chief
Nuclear Materials Safety Branch
Division of Radiation Safety
and Safeguards

SUBJECT: MERCK SHARP & DOHME RESEARCH LABORATORIES - FINANCIAL ASSURANCE TECHNICAL ASSISTANCE REQUEST

Enclosed are copies of the financial assurance submittals for the Merck Sharp & Dohme Research Laboratories. These have been reviewed by my staff and found to contain documentation in support of a self-guarantee and a schedular exemption request for the period of rulemaking. A brief list of acceptable items and potential deficiencies identified by my staff is included. We would appreciate you arranging for review by the contractor and/or your staff and advice on whether the mechanism is acceptable. A copy of each license is included.

Anthony Dimitriadis, of my staff, is the official contact for these actions. If your staff has any questions, do not hesitate to contact him at (215) 337-6953.

We appreciate your assistance.

Original Signed By:
Francis M. Costello

Ronald R. Bellamy, Chief
Nuclear Materials Safety Branch
Division of Radiation Safety
and Safeguards

Enclosures:
1. Submittals
2. List of Acceptable Items and
Potential Deficiencies

OFFICIAL RECORD COPY ML 10

cc:
J. Glenn, NMSS
S. Villar, RI

bcc:
Region I Docket Room
M. Shanbaky, RI
A. Dimitriadis, RI

RI:DRSS	RI:DRSS	RI:DRSS
Dimitriadis	Shanbaky	Bellamy
12/7/93	12/7/93	12/7/93

MERCK SHARP & DOHME RESEARCH LABORATORIES
FINANCIAL ASSURANCE REVIEW

- Costs for planning, prep and conducting a final radiation survey are included.
- Revised disposal estimates reflect 1993 costs.
- Contingency factor not included due to a conservative cost estimate.
- Letter from Chief Financial Officer is complete and originally signed.
- Letter from CEO dated July 26, 1990, is originally signed and reflects a lower tangible net worth than current statements for 1993.
- Although recommended for Parent Company Guarantees, a standby Trust Agreement is not attached with this self-guarantee.
- Audit report attached.

MERCK SHARP & DOHME RESEARCH LABORATORIES
DIVISION OF MERCK & CO., INC.
P.O. BOX 2000, RAHWAY, NEW JERSEY 07065

M516
K-8

MARTIN F. MALKIN, PH.D.
EXECUTIVE DIRECTOR
PLANNING & MANAGEMENT

(908) 594-5181
FAX (908) 594-3178

November 5, 1993

Mr. John D. Kinneman
Chief, Research Development and Decommissioning Section, Division of Radiation Safety and Safeguards
Region I, U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406-1415

Re: License Nos. 29-00117-06 and 37-01531-08 and Mail Control Nos. 113032 and 113033

Dear Mr. Kinneman:

This is in response to your letter dated August 17, 1993 requesting additional information regarding our Decommissioning Financial Assurance Plan submitted July 25, 1990. We are requesting a schedular exemption for the period of rulemaking on self-guarantee which is currently in effect. Merck Research Laboratories is a division of Merck & Co., Inc. Therefore, we are submitting documents in support of a self-guarantee in the name of Merck & Co., Inc. Finally, we are submitting greater detail supporting our decommissioning cost estimates using 1993 decommissioning and waste disposal costs. To clarify our response each item of your letter will be listed in bold followed by our response to that item.

1. Submit additional detail to support the cost estimates.

a.(1) Our labor cost estimates include the cost of planning, preparation, and conducting a final radiation survey.

a.(2) Estimates of disposal costs include the costs of labor, transportation, cost of containers, handling fees, out-of-compact surcharges, and burial site disposal costs. The information provided to you in the letter dated July 25, 1990 was based on 1990 disposal costs. Current disposal costs have substantially increased and have been factored into our 1993 decommissioning cost assessment. (See Table 1)

a.(3) The square feet of floor space for radioactive materials use for the four Merck sites has been clearly specified in our letter dated July 25, 1990. Also, the laboratory components in each lab are described as well as the assumptions made for the volume of components that will be contaminated. As the number of laboratories used for research involving radioactive material has increased since 1990, the decommissioning costs have therefore been appropriately adjusted. We believe decommissioning estimates provided are very conservative in that our estimates include decontamination and disposal of 1% of floor covering, wall surfaces, and dropped ceiling material as well as 25% of the fume hoods in all radioactive laboratories. However, our routine

113032/113033
NOV 15 1993

contamination monitoring indicates that such extensive decontamination efforts would be necessary in only 5% of our 400-plus laboratories.

b.(1) Our original estimates of low-level radioactive waste disposal were based on 1990 disposal costs ($100/ft^3). For this submittal, waste disposal costs have been adjusted to account for 1993 disposal costs ($325/ft^3). The estimated cost to decommission the four Merck sites has been revised to account for expanded activities, increased waste disposal costs, and inflation. A summary of these costs is shown in Table 1.

b.(2) Estimates of our waste volumes in the letter dated July 25, 1990 are most conservative, as discussed in 1.a.(3). Therefore, a contingency factor is not warranted. In addition, no credit has been taken for any salvage value that may be realized from the sale of potential assets after decommissioning.

TABLE 1. UPDATED RADIOLOGICAL DECOMMISSIONING COST ASSESSMENT

	1990	1993
Rahway		
Decontamination	$1,800,000	$3,400,000
Radioactive Waste Disposal	$1,300,000	$6,900,000
Sub-total	$3,100,000	$10,300,000
West Point		
Decontamination	$2,300,000	$2,900,000
Radioactive Waste Disposal	$1,100,000	$3,900,000
Sub-total	$3,400,000	$6,800,000
Three Bridges		
Decontamination	$320,000	$360,000
Radioactive Waste Disposal	$17,000	$55,000
Sub-total	$337,000	$415,000
Branchburg		
Decontamination	$330,000	$370,000
Radioactive Waste Disposal	$11,000	$35,000
Sub-total	$341,000	$405,000
TOTAL	**$7,180,000**	**$17,920,000**

2. **Incorporate a contingency factor into the total decommissioning cost estimate and confirm that no credit was taken for salvage value.**

As mentioned in our response to item 1 above, we believe our estimates are conservative, and we have taken no credit for salvage value. In addition, our decommissioning cost estimate is updated every year to account for changes in decontamination or waste disposal costs. Consequently, we believe an additional contingency factor is not warranted.

3. **Submit an alternate method of financial assurance, or clarify that a parent-subsidiary relationship exists under which the parent guarantee mechanism is allowed.**

This item is not applicable as we are applying for a self-guarantee.

4. **Submit a different financial test demonstration or submit a different method of financial assurance.**

   As mentioned above we are submitting a self-guarantee method of financial assurance. See letter dated October 29, 1993 from the Chief Financial Officer of Merck & Co., Inc. (Attachment I).

5. **Submit a letter from the licensee's chief executive officer.**

   Attachment II is a letter dated July 26, 1990 from P. Roy Vagelos, M.D., Chief Executive Officer of Merck & Co., Inc. which was part of our original submission in July of 1990. Attachment III is a letter from the Secretary of Merck & Co., Inc. certifying that Dr. Vagelos is the Chief Executive Officer at this time.

6. **Submit a parent company guarantee agreement.**

   This item is not applicable as we are applying for a self-guarantee of financial assurance.

7. **Revise financial test demonstration to include all facilities for which Merck & Co., Inc. will provide a corporate guarantee.**

   See attachment I which provides for financial assurance of the four facilities authorized under NRC License Nos. 29-00117-06 and 37-01531-08 and located at West Point, PA, Rahway, NJ, Branchburg, NJ and Three Bridges, NJ. These four facilities are run by the Merck Research Laboratories Division of Merck & Co., Inc. Also included in the financial assurance is the facility authorized under NRC License No. 45-03302-0 at Elkton, VA. This facility is run by the Merck Manufacturing Division of Merck & Co., Inc.

8. **Submit a standby trust guarantee agreement and related documentation.**

   This item is not applicable as we are applying for a self-guarantee of financial assurance.

9. **Required documentation in support of a self-guarantee and schedular exemption request for the period of rulemaking.**

   a. As stated above we are making a specific request to use a self-guarantee and we further request a schedular exemption from the requirements of 10 CFR 30.35(f) during the period of rulemaking on self-guarantee.

   b(1-4). Letter dated October 29, 1993 from Chief Financial Officer, Judy C. Lewent (attachment I) provides documentation that we pass the required financial test for self-guarantee.

   b(5) See attachment V for equity security registration.

   c. See attachment VI for copies of reports filed with the Securities and Exchange Commission under Section 13 of the Securities Exchange Act of 1934.

d. See attachment IV for documentation that Merck's independent certified public accountant has compared the financial test data with the company's independently audited year end financial statements.

e. Merck & Co., Inc. will repeat the self-guarantee financial test within 90 days after the close of each succeeding financial year. If the company does not pass the self-guarantee financial test, the company will request an amendment to our license to change the method of providing decommissioning financial assurance.

f. Merck & Co., Inc. further commits to notify the NRC within 90 days of any matters which come to the attention of the auditor that may cause the auditor to believe that the company no longer passes the self-guarantee financial test.

If you have any question regarding this submission, please contact Dr. Edwin A. Wurtz, Assoc. Dir., Health Physics, Biosafety and Environmental Affairs (215-652-4890).

Sincerely,

Martin F. Malkin, Ph. D.
Executive Director, Administration and Planning

Attachments:
I) Letter dated October 29, 1993 from Judy C. Lewent, CFO
II) Letter dated July 26, 1990 from P. Roy Vagelos, M.D., CEO
III) Letter from Dolores O. Rosinski, Assistant Secretary of Merck & Co., Inc. certifying CEO and CFO
IV) Letter dated October 29, 1993 from Arthur Anderson & Co.
V) Letter from Dolores O. Rosinski, Assistant Secretary of Merck & Co., Inc. with equities security registration attached
VI) Reports filed with Securities and Exchange Commission
a) Proxy Statement March 12, 1993
b) Form 10-K for Fiscal Year 1992 filed March 25, 1993
c) Form 10-Q for Quarterly Period End March 31, 1993 filed May 10, 1993
d) Form 10-Q for Quarterly Period end June 30, 1993 filed August 10, 1993
e) Form 8-K filed January 11, 1993
f) Form 8-K filed February 17, 1993
g) Form 8-K filed March 23, 1993
h) Form 8-K filed July 28, 1993
i) Merck & Co., Inc. Annual Report 1992

Judy C. Lewent
Senior Vice President
& Chief Financial Officer

Merck & Co., Inc.
One Merck Drive
P.O. Box 100
Whitehouse Station NJ 08889-0100

Attachment I

MERCK

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Re: License Nos. 29-00117-06 and 37-01531-08 October 29, 1993

Dear Sir or Madam:

I am the Chief Financial Officer of Merck & Co., Inc., a corporation. This letter is in support of this corporation's use of the financial test to demonstrate financial assurance, as specified in 10 CFR Part 30.

This corporation guarantees the availability of funds to decommission the following facilities operated by divisions of this corporation. This financial assurance is being prepared specifically for License Nos. 29-00117-06 and 37-01531-08 of the Merck Research Laboratories Division but also includes the decommissioning amount for the Merck Manufacturing Division License No. 45-03302-01. The current cost estimates or certified amounts for decommissioning, so guaranteed, are shown for each facility:

Name of Facility	Location of Facility		Current Cost Estimates
Merck Research Laboratory	Rahway, NJ		$10,300,000
"	West Point, PA		6,800,000
"	Three Bridges, NJ		415,000
"	Branchburg, NJ		405,000
"			
Merck Research Laboratories Division		Sub Total	$17,920,000
Merck Manufacturing Division	Elkton, VA		750,000
		Total	$18,670,000

This corporation is required to file a Form 10K with the U.S. Securities and Exchange Commission for the latest fiscal year.

This fiscal year of this corporation ends on December 31. The figures for the following items marked with a (1) are derived from this corporation's independently audited, year-end financial statements and footnotes for the latest completed fiscal year, ended 1992.

($ Millions)

4.7.4 ncial Test: Alternative II

	..	Decommissioning cost estimates for all facilities (License Nos. 29-00117-06, 37-01531-08 and 45-03302-01) (total of all cost estimates shown in paragraphs above)		$18.7
	2.	Current bond rating of most recent issuance of this corporation and name of rating service	Moody's S&P	AAA Aaa
	3.	Date of issuance of bond		6/15/93
	4.	Date of maturity of bond		1/25/95
(1)	5.	Tangible net worth (total Shareholders' Equity less Intangibles)		$4,772.5
(1)	6.	Total assets in United States (required only if less than 90 percent of corporation's assets are located in the United States)		$6,284.6
			Yes	No
	7.	Is Line 5 at least $10 million?	X	___
	8.	Is Line 5 at least 6 times Line 1?	X	___
(1)	9.	Are at least 90 percent of corporation's assets located in the United States? If not, complete Line 10.	___	X
	10.	Is Line 6 at least 6 times Line 1?	X	___

(1)Denotes figures derived from financial statements.

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Sincerely yours,

Judy C. Lewent
Chief Financial Officer

Attachment II

MERCK & CO., INC.
P O BOX 2000
RAHWAY, NEW JERSEY 07065-0900

P ROY VAGELOS, M D
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

July 26, 1990

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 17406

Re: License Nos. 29-00117-06 and 37-01531-08

Dear Sir or Madam:

I am the Chief Executive Officer of Merck & Co., Inc., P. O. Box 2000, Rahway, New Jersey, a corporation. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in 10 CFR Part 30.

I hereby certify that Merck & Co., Inc. is currently a going concern and that it possesses positive tangible net worth in the amount of $3,203.4 million.

This corporation is required to file a Form 10K with the U.S. Securities and Exchange Commission for the latest fiscal year. This fiscal year of this corporation ends on December 31.

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Sincerely yours,

Roy Vagelos

I, DOLORES O. ROSINSKI, Assistant Secretary of MERCK & CO., Inc. (the "Company"), a Corporation duly organized and existing under the laws of the State of New Jersey, do hereby certify that P. Roy Vagelos has been duly elected, has duly qualified, and this day is Chairman of the Board, President and Chief Executive Officer, and that the signing of the documents relating to the U.S. Nuclear Regulatory Commission License Nos. 29-00117-06 and 37-01531-08, is within his area of responsibility and in conformity with General Corporate Resolution #2, as adopted by the Board of Directors of said Corporation and presently in full force and effect, and delegations of authority thereunder; and further, that Judy C. Lewent has been duly elected, has duly qualified, and this day is Senior Vice President and Chief Financial Officer, and she has been duly authorized under the Company's Grants of Authority, and in that capacity is authorized to execute such instruments and documents on its behalf as may be necessary, and that the signing of the above-described documents is within her area of responsibility.

IN WITNESS WHEREOF, I have hereunto subscribed my signature and affixed the seal of the Corporation this 30th day of September, 1993.

SEAL

Dolores O. Rosinski

Assistant Secretary

0010S-53

ARTHUR ANDERSEN

ARTHUR ANDERSEN & Co SC

Arthur Andersen & Co.

1345 Avenue of the Americas
New York NY 10105

Attachment IV

October 29, 1993

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Re: License Nos. 29-00117-06 and 37-01531-08

Dear Sir or Madam:

We have audited, in accordance with generally accepted auditing standards, the consolidated financial statements of Merck & Co., Inc. (a New Jersey Corporation) and subsidiaries (the "Company") for the year ended December 31, 1992, and have issued our report thereon dated January 26, 1993. We have not performed any auditing procedures since that date.

Merck & Co., Inc. has prepared documents to demonstrate its financial responsibility under the U.S. Nuclear Regulatory Commission's ("NRC") financial assurance regulations, 10 CFR Part 30. This letter is furnished to assist the licensee, the Merck Research Laboratories division of Merck & Co., Inc., in complying with these regulations.

The attached schedule (Page 3) reconciles the specified information furnished in the Chief Financial Officer's (CFO's) letter dated October 29, 1993, in response to the regulations with the Company's consolidated financial statements. In connection therewith, we have:

1. Determined that the amounts in the column "Per Financial Statements" agree with the amounts contained in the Company's consolidated financial statements for the year ended December 31, 1992;

2. Determined that the amounts in the column "Per CFO's Letter" agree with the letter prepared in response to the NRC's request,

3. Determined that the amounts in the column "Reconciling Items" agree with analyses prepared by the Company setting forth the indicated items; and

4. Tested the clerical accuracy of the totals and percentages presented in the accompanying schedule and/or the CFO's Letter.

Because the procedures in 1-4 above do not constitute an audit made in accordance with generally accepted auditing standards, we do not express an opinion on the accompanying schedule. In connection with these procedures, no matters came to our attention that the information set forth in the accompanying schedule should be adjusted.

This report is furnished solely for the use of the Company and the NRC and should not be used for any other purpose.

Arthur Andersen & Co.

Attachment

MERCK & CO., INC.
YEAR ENDED DECEMBER 31, 1992
($ Millions)

Line Number in CFO's Letter		Per Financial Statements	Reconciling Items	Per CFO's Letter
	Total Stockholder's Equity	$5,002.9		
	Less: Intangibles	230.4		
5	Total Tangible Net Worth	$4,772.5		
	Accrued Decommissioning Costs Included in Liabilities		$0	
	Total Tangible Net Worth Plus Decommissioning Costs			$4,772.5

Attachment V

I, DOLORES O. ROSINSKI, Assistant Secretary of MERCK & CO., Inc. (the "Company"), a Corporation duly organized and existing under the laws of the State of New Jersey, do hereby certify that the attached are true and correct copies of (1) a Listing Application filed with the New York Stock Exchange in April 1992 in connection with the Company's three-for-one stock split of May 6, 1992, and (2) a letter dated April 28, 1992 from the New York Stock Exchange authorizing the listing of additional shares of Common Stock of the Company.

IN WITNESS WHEREOF, I have hereunto subscribed my signature and affixed the seal of the Corporation this 30th day of September, 1993.

SEAL

Dolores O. Rosinski

Assistant Secretary

0010S-52

MAY 01 1992

20 Broad Street
New York, NY 10005
212 656 6057
Robert G. Britz
Vice President
New Listings and
Corporate Liaison

NYSE
New York
Stock Exchange, Inc

April 28, 1992

Mr. Martin J. McDermott
Senior Assistant Secretary
Merck & Co., Inc.
P.O. Box 2000
Rahway, NJ 07065-0900

Dear Mr. McDermott:

I am pleased to inform you that on April 28, 1992, the New York Stock Exchange, Inc. authorized the listing of 1,075,848,616 additional shares of Common Stock, of Merck & Co., Inc., in accordance with the terms of the Company's application.

A "When Issued" market will be provided for the additional shares starting May 7, 1992, and will continue through May 22, 1992, the date on which the additional shares will be mailed.

Sincerely,

Judith C. McHugh (for RGB)

85143

MERCK & CO., INC.

P.O. BOX 2000

RAHWAY, NEW JERSEY 07065-0900

OFFICE OF CORPORATE STAFF COUNSEL

TELEPHONE (908) 594-4000

FACSIMILE (908) 594-6394

April 10, 1992

Mr. Patrick Conneally
Operations, Policy & Support Representative
New York Stock Exchange, Inc.
20 Broad Street
New York, NY 10005

RE: 1992 Stock Split

Dear Mr. Conneally:

The Board of Directors of Merck & Co., Inc. (the "Company") approved on February 25, 1992, a three-for-one stock split of the Common Stock of the Company. Also, we wish to confirm, pursuant to Exchange Rule 204.16, certain aspects of the proposed split:

1. The split of Common Stock will be three-for-one.

2. The record date for the stock split will be May 6, 1992.

3. An amendment to the Company's Restated Certificate of Incorporation increasing authorized Common Stock was filed with the Secretary of State of New Jersey on March 31, 1992, and will be effective May 6, 1992. No shareholder action is required to be taken under New Jersey law in order to effect the stock split.

4. The date of the stock distribution will be May 22, 1992.

5. Notice will be sent by the Company's new transfer agent/registrar, Norwest Bank Minnesota, N.A. to broker/nominees on April 21, 1992 requesting information on share requirements. The brokers' cut-off date will be May 13, 1992.

Attached are the following items:

1. A certified copy of the resolutions adopted by the Board of Directors of the Company with respect to the stock split.

2. A draft schedule for the stock split.

85142

3. A draft of the NYSE listing application.

4. A draft opinion of Company counsel addressed to the NYSE.

We would anticipate that you will be sending to us the Exchange's due bill letter which will be signed by the Company. In the meantime, if you have any questions or comments on any of the drafts, please call Timothy B. Cleary, Esq. at (908) 594-1643.

Very truly yours,

Martin J. McDermott
Senior Assistant Secretary

MJM/TBC:nw
5598d:11-12

Attachments

CERTIFICATION

I, DOLORES O. ROSINSKI, Assistant Secretary of MERCK & CO., Inc., a Corporation duly organized and existing under the laws of the State of New Jersey, do hereby certify that the attached is a true and correct copy of a resolution adopted at a meeting of the Board of Directors of said Corporation held in Rahway, New Jersey on February 25, 1992, duly called in accordance with the provisions of the By-Laws of said Corporation, and at which a quorum of Directors was present.

IN WITNESS WHEREOF, I have hereunto subscribed my signature and affixed the seal of the Corporation this 17th day of April, 1992.

Dolores O. Rosinski

Senior Assistant Secretary

00105

Special Resolution No. 5 - 1992

Stock Split and Approval of Related Charter Amendment Increasing Authorized Common Stock

RESOLVED, that:

(1) effective May 6, 1992, all the issued shares of Common Stock of the Company, whether outstanding or in Treasury, shall be divided into three shares of Common Stock;

(2) the authorized Common Stock of the Company shall be increased from 900,000,000 to 2,700,000,000 shares and, to such end, that the Restated Certificate of Incorporation of the Company, first paragraph of Article IV (Capital Stock), be amended, effective May 6, 1992, to read as follows:

"The amount of the total authorized capital stock of the Corporation shall be 2,710,000,000 shares consisting of 2,700,000,000 shares of Common Stock, without par value, and 10,000,000 shares of Preferred Stock, without par value, issuable in one or more series";

Filing of Certificate of Amendment

RESOLVED, that the proper officers of the Company are authorized and directed to execute and file with the Secretary of State of the State of New Jersey a certificate of amendment of the Restated Certificate of Incorporation of the Company setting forth such amendment as hereinabove approved, such certificate of amendment to become effective at the close of business on May 6, 1992, and do or cause to be done any and all acts and things which they, with the advice of counsel, may deem necessary or appropriate in order to put such amendment into effect;

Stock Distribution

RESOLVED, that as soon as practicable after May 6, 1992 there shall be issued and distributed to the holders of record of the Common Stock of the Company as of May 6, 1992 a certificate or certificates which shall represent two additional shares of Common Stock of the Company for each share of Common Stock of the Company held of record on the record date;

Record Date

RESOLVED, that the close of business on May 6, 1992 is fixed as the record date for the determination of the stockholders entitled to receive the aforesaid issuance and distribution of certificates representing additional shares of Common Stock;

Shares Fully Paid and Non-Assessable

RESOLVED, that all shares issued upon the effectiveness of the aforesaid certificate of amendment are declared to be fully paid and non-assessable;

Listing on New York Stock Exchange

RESOLVED, that application be made to effect listing on the New York Stock Exchange of all shares of Common Stock resulting from the three-for-one split of the Common Stock, including all shares issued upon effectiveness of the certificate of amendment to the Restated Certificate of Incorporation of the Company or to be issued under the Company's stock incentive program or the Executive Incentive Plan, and that the Chairman of the Board and Chief Executive Officer, the Secretary and the Treasurer of the Company (or any of them) are each authorized, with the advice of counsel, to make changes in the application and in any agreements relative thereto as may be necessary to conform with the requirements of

the Exchange for listing and to take such other steps as may be necessary to effect listing;

Listing on Philadelphia Stock Exchange

RESOLVED, that application be made to effect listing on the Philadelphia Stock Exchange of all shares of Common Stock of the Company resulting from the three-for-one split of the Common Stock, including all shares issued upon effectiveness of the certificate of amendment to the Restated Certificate of Incorporation of the Company or to be issued under the Company's stock incentive program or the Executive Incentive Plan, and that the Chairman of the Board and Chief Executive Officer, the Secretary and the Treasurer of the Company (or any of them) are each authorized, with the advice of counsel, to make changes in the application and in any agreements relative thereto as may be necessary to conform with the requirements of the Exchange for listing and to take such other steps as may be necessary to effect listing;

General Authority for Amsterdam Stock Exchange and Paris Bourse

RESOLVED, that the proper officers of the Company are authorized, empowered and directed to do or cause to be done any and all such further acts and things, including the execution and delivery on behalf of the Company of such papers and documents as they, with the advice of counsel, may deem necessary or appropriate to conform with the listing and other requirements of the Amsterdam Stock Exchange and of the Paris Stock Exchange (Bourse);

Authorization to Effectuate Stock Split

RESOLVED, that on notice from the Chairman of the Board and Chief Executive Officer or the Secretary of the Company of the effectiveness on May 6, 1992 of the certificate of

amendment to the Restated Certificate of Incorporation of the Company proposed to be filed in the office of the Secretary of State of the State of New Jersey, The Bank of New York, as Transfer Agent and Registrar, or any duly appointed successor Transfer Agent and Registrar, is authorized and directed, pursuant to the issuance instructions contained in General Corporate Resolution No. 4, as readopted from time to time, to take all such actions as it deems necessary to issue and distribute to holders of record of Common Stock on the record date, as determined from the stockholder records maintained by the Company as Stockholder Recordkeeping Agent, certificates for two additional shares of Common Stock of the Company, for each share of Common Stock held on such record date;

RESOLVED, that the proper officers of the Company are authorized, empowered and directed to furnish to The Bank of New York or to any duly appointed successor Transfer Agent and Registrar such instructions, advices and other documents, including opinions of counsel, as may be necessary or appropriate in connection with the foregoing;

Blue Sky Compliance

RESOLVED, that the directors and officers of the Company are authorized in the name and on behalf of the Company to do all acts that they deem necessary or appropriate or desirable, including the execution, acknowledgment, verification, delivery, filing and publishing of consent to service of process, applications, reports, issuer's covenants, resolutions, and other documents in order to comply with the applicable blue sky or securities

laws of all of the states of the United States, and such other jurisdictions as the Company may deem desirable in connection with the foregoing split of the Common Stock of the Company; and

General

RESOLVED, that the proper officers of the Company are authorized, empowered and directed to do or cause to be done any and all such further acts and things, including the exercise and delivery on behalf of the Company of such papers and documents as they, with the advice of counsel, may deem necessary or appropriate to carry into effect the full intents and purposes of the foregoing resolutions.

SCHEDULE
THREE-FOR-ONE STOCK SPLIT
COMMON STOCK
MERCK & CO., INC.
Effective May 6, 1992

February 25, 1992

- 10:00 a.m. - telephone conference held with New York Stock Exchange ("NYSE") and clearance obtained of timetable and mechanics of a three-for-one stock split of the Company's Common Stock (the "Stock Split")

- 10:30 a.m. - approval given by Compensation and Benefits Subcommittee of the Board with respect to adjustments in share number and price of outstanding stock options and shares authorized under the 1991 Incentive Stock Plan and adjustments to the number of shares under any Strategic Performance Award, subject to Board approval

- 12:30 p.m. - recommendation for Stock Split approved by Executive Committee, subject to approval of Board of Directors

- 12:35 p.m. - approval given by Executive Committee of the Board with respect to valuing accounts under the Plan for Deferred Payment of Directors' Compensation

- 3:30 p.m. - approval by Board of Directors of Stock Split. The following definitive resolutions were adopted:
  1. Approval of division of each issued share of Common Stock of the Company, whether outstanding or in Treasury, into three shares of Common Stock
  2. Authorization for filing Amendment to Restated Certificate of Incorporation with the Secretary of State of New Jersey, to increase the authorized Common Stock from 900,000,000 to 2,700,000,000 shares
  3. Fixing May 6, 1992 as record date for Stock Split
  4. Authorization for listing additional shares of Common Stock on NYSE and the Philadelphia Stock Exchange
  5. Authorization to The Bank of New York, the Company's transfer agent/registrar, or any duly appointed successor Transfer Agent and Registrar, to effectuate Stock Split
  6. Authorization for required blue sky filings
  7. Approval of changes in compensation plans reflecting Stock Split.

- 3:35 p.m. - telephone notice given to NYSE and PSE; press release transmitted to Dow Jones, Reuters and PR newswire
- 8:00 p.m. - written notice sent to NYSE, PSE, Midwest Stock Exchange, Pacific Stock Exchange, Inc. (San Francisco Division), Banque de Paris et des Pays Bas, S.A.

March 6 - Record date for quarterly dividend

March 16 - Arrangements made for printing of additional stock certificates

March 23 - Written notice sent to Administratiekantoor van de Twentsche Trust Maatschappij B.V., Boston Stock Exchange, Cincinnati Stock Exchange, Society Interprofessionnelle pour la Compensation des Valeurs Mobilieres

March 27 - Certificate of Amendment to Restated Certificate of Incorporation executed

March 31 - Certificate of Amendment filed with Secretary of State to be effective May 6, 1992.

- Board resolutions transmitted to Norwest Bank

April 1 - Date that new transfer agent and registrar, Norwest Bank Minnesota, N.A., becomes effective

April 8 - Notice sent to NYSE pursuant to Para. 204.16 of Exchange Manual together with drafts of Stock Split schedule, Listing Application and opinion of counsel

April [15] - Listing applications pre-filed with NYSE and PSE

April [15] - Blue Sky opinion given

April	•	Member firms advised by NYSE with respect to Stock Split, due bills and related matters
April	•	Listing Applications filed with NYSE and PSE
April 21	•	Broker/Nominee letter re share requirements mailed by Norwest Bank
April	•	Authorization for listing additional shares received from NYSE and PSE
May 6	•	Stock Split and Certificate of Amendment effective as of close of business
	•	Arrangements made for due bills to accompany certificates delivered after May 6 on contracts made prior to May 22
	•	Letter to Norwest Bank with additional documents
	•	Stock admitted by NYSE to "when issued" dealings
May 7	•	Filing of Certificate of Amendment commenced in states where Company qualified to do business
May 12	•	Letter to Norwest Bank with shareholder record as of May 6, 1992
May 13	•	Broker/Nominee cut-off date for advice re share requirements
May 22	•	Additional shares mailed to stockholders
	•	"When issued" trading terminated
	•	Trading with "due bills" terminated
	•	Notice sent to directors reminding them to file Form 4 covering shares to be issued in Stock Split
May 26	•	Trading in stock "ex-distribution" begins

June ___ • "Due bills" redeemed [date to be set by NYSE]

June ___ • "When issued" contracts settled [date to be set by NYSE]

June ___ • Dividend record date.

5598d:1-4

Listing Application To
New York Stock Exchange, Inc.

589331-4/ /92-1

MERCK & CO., INC.

1,075,848,616 Additional Shares of Common Stock

In Connection With A
Three-For-One Stock Split

Issued and outstanding as of March 31, 1992, (Excluding treasury shares): 385,974,315
Treasury Shares: 69,549,993
Number of Holders: 100,029
Date of Directors' Action: February 25, 1992
Record Date: May 6, 1992
Distribution Date: May 22, 1992

DESCRIPTION OF TRANSACTION

Three-For-One Stock Split

Merck & Co., Inc., a New Jersey corporation (the "Company"), hereby gives notice to the New York Stock Exchange, Inc. that its Board of Directors approved, on February 25, 1992, (1) an amendment to the Company's Restated Certificate of Incorporation (the "Charter") increasing the number of authorized shares of Common Stock of the Company from 900,000,000 shares to 2,700,000,000 shares and (2) a three-for-one stock split in the form of a stock distribution. The Certificate of Amendment of the Charter was filed with the Secretary of State of the State of New Jersey on March 31, 1992 and will become effective at the close of business on May 6, 1992, which will be the record date for purposes of the stock split. Certificates representing additional full shares of Common Stock to be issued in connection with the stock split will be so issued and mailed on May 22, 1992.

The number of shares of Common Stock listed pursuant to this portion of the application is 911,048,616, including 139,099,986 treasury shares.

STOCK OPTION PLANS

Pursuant to the adjustment provisions of the Company's Stock Option Plan, 1981 Incentive Stock Option Plan, 1981 Nonqualified Stock Option Plan, and 1987 Incentive Stock Plan (the "Stock Option

and Incentive Plans"), the Board of Directors has determined that, upon effectiveness of the stock split, (a) the aggregate number of shares of Common Stock authorized by the Stock Option and Incentive Plans be increased from 57,000,000 shares to 171,000,000 shares (36,000,000 combined for the 1981 Non-Qualified Stock Option Plan and the 1981 Incentive Stock Option Plan, 117,000,000 for the Stock Option Plan and 18,000,000 for the 1987 Incentive Stock Plan), (b) the number of shares covered by each Strategic Performance Award or issuable under outstanding options not exercised at such time be tripled and (c) the exercise price per share under such options be divided by three.

Pursuant to the adjustment provisions of the Company's 1991 Incentive Stock Plan (the "1991 Plan"), the Subcommittee of the Compensation and Benefits Committee of the Board of Directors has determined that, upon effectiveness of the stock split, (a) the number of shares of Common Stock reserved for issuance under the 1991 Plan be divided into three shares of Common Stock, (b) the number of shares issuable under outstanding options not exercised at such time be tripled and the exercise price per share under such options be divided by three and (c) the minimum, target and maximum number of shares of Common Stock under any Strategic Performance Award granted under the 1991 Plan but not yet paid be tripled. As of March 31, 1992, a total of 18,254,186 shares of Common Stock were reserved for issuance under the Company's Stock Option and Incentive Plans and the 1991 Plan.

The number of shares of Common Stock to be listed pursuant to this portion of the application is 154,000,000.

EXECUTIVE INCENTIVE PLAN

Pursuant to the adjustment provisions of the Company's Executive Incentive Plan, the Board of Directors has determined that, upon effectiveness of the stock split, (a) the number of shares of Common Stock which may be awarded under the Executive Incentive Plan (exclusive of shares representing dividends), be increased from 5,400,000 shares to 16,200,000 shares, and (b) the number of undelivered shares credited to participant accounts be multiplied by three. As of March 31, 1992, 3,700,752 shares of Common Stock were reserved for issuance under the Executive Incentive Plan.

The number of shares of Common Stock to be listed pursuant to this portion of the application is 10,800,000.

ACCOUNTING TREATMENT

There will be no charge against earnings or earned surplus in respect of the stock split.

RECENT DEVELOPMENTS

Since the last Annual Report to Stockholders, there have been no important developments affecting the Company or its business that have not received publicity.

AUTHORITY TO ISSUE

An amendment to the Charter as set forth above and the three-for-one stock split was approved by the unanimous vote of the Board of Directors of the Company on February 25, 1992. The Board of Directors on February 25, 1992 approved the adjustments described above with respect to the shares issuable pursuant to the Stock Option and Incentive Plans, the Executive Incentive Plan and the 1991 Plan. No action is required to be taken by shareholders under New Jersey law.

OPINION OF COUNSEL

The opinion of Bert I. Weinstein, Esq., Merck & Co., Inc. P.O. Box 2000, Rahway, New Jersey 07065 is being filed in support of this Application. Such opinion states, in substance, that upon effectiveness of the above described amendment to the Restated Certificate of Incorporation of the Company:

1. The Company will be authorized to issue 2,700,000,000 shares of Common Stock.

2. The shares of Common Stock for which application for listing is made will have been duly authorized and when issued, in connection with the stock split (as hereinabove described and as effected by the filing of the aforesaid certificate of amendment) or pursuant to the provisions of the Company's Stock Option and Incentive Plans, 1991 Incentive Stock Plan, or under awards granted or to be granted pursuant to the provisions of the Company's Executive Incentive Plan, will be duly and validly issued, fully paid and non-assessable, with no personal liability attaching to the holders thereof under the laws of the State of New Jersey, in which State the Company is incorporated, and in which is located its principal place of business.

3. The shares of Common Stock issuable as a result of the stock split are not required to be registered under the Securities Act of 1933, as amended, because the issuance thereof will not involve a "sale" as defined in section 2(3) of said Act.

4. The shares to be issued pursuant to the Stock Option and Incentive Plans and the 1991 Incentive Stock Plan have been, or prior to issuance will be, registered under the Securities Act of 1933, as amended.

5. The shares to be issued pursuant to the Executive Incentive Plan are not required to be registered under the Securities Act of 1933, as amended, because the issuance thereof will not involve a "sale" as defined in section 2(3) of said Act.

Merck & Co., Inc.

By: Martin J. McDermott
Senior Assistant Secretary

The New York Stock Exchange, Inc. hereby authorizes the listing of:

911,048,616	additional shares of Common Stock of Merck & Co., Inc, upon official notice of the effectiveness of a certificate of amendment to the Restated Certificate of Incorporation of the Company increasing authorized Common Stock, and
154,000,000	additional shares of Common Stock, upon official notice of issuance pursuant to the Company's Stock Option Plan, 1981 Nonqualified Stock Option Plan, 1981 Incentive Stock Option Plan, 1987 Incentive Stock Plan, and 1991 Incentive Stock Plan
10,800,000	additional shares of Common Stock, upon official notice of issuance pursuant to the Company's Executive Incentive Plan, and

which, together with the 499,411,450 shares currently authorized for listing, make a total of 1,575,260,066 shares of Common Stock of the Company authorized for listing.

David L. Domijan
Executive Vice President
New Listings & Corporate Liaison

William H. Donaldson
Chairman of the Board
New York Stock Exchange, Inc.

EXHIBITS

The exhibits attached hereto constitute an essential part of the listing application. The statements of fact contained therein are made on the authority of the Company in the same manner as those in the body of the Application.

SUPPORTING DOCUMENTATION

1. Certified copy of the resolution adopted by the Board of Directors at a meeting held on February 25, 1992, authorizing the listing and issuance of additional shares.

2. Schedule of Stock Split.

3. Opinion of counsel.

4. Notice to shareholders re distributed shares.

5. Amendment to Restated Certificate of Incorporation.

5598d:21-25

April , 1992

New York Stock Exchange, Inc.
New Listings and Corporate Liaison
20 Broad Street,
New York, NY 10005

Dear Sir or Madam:

I am an Assistant General Counsel of Merck & Co., Inc., a corporation organized under the laws of the State of New Jersey (the "Company"). With respect to the Company's application for the listing of 1,075,848,616 additional shares of its common stock, no par value ("Common Stock") in connection with a three-for-one stock split authorized by the Board of Directors of the Company on February 25, 1992, I have examined such documents and have made such examinations of law and fact as I have deemed necessary as the basis for the opinions hereinafter expressed. On the basis of the foregoing examination and review, I advise you that, in my opinion, upon effectiveness of the certificate of amendment to the Company's Restated Certificate of Incorporation:

1. The Company will be authorized to issue 2,700,000,000 shares of Common Stock.

2. The shares of Common Stock for which application for listing is made will have been duly authorized and when issued, in connection with the stock split (as hereinabove described and as effected by the filing of the aforesaid certificate of amendment) or pursuant to the provisions of the Company's Stock Option Plan, 1981 Nonqualified Stock Option Plan, 1981 Incentive Stock Option Plan, 1987 Incentive Stock Plan and 1991 Incentive Stock Plan (the "Stock Option and Incentive Plans"), or under awards granted or to be granted pursuant to the provisions of the Company's Executive Incentive Plan, will be duly and validly issued, fully paid and non-assessable, with no personal liability attaching to the holders thereof under the laws of the

State of New Jersey, in which state the Company is incorporated and in which is located its principal place of business.

3. The shares of Common Stock issuable as a result of the stock split are not required to be registered under the Securities Act of 1933, as amended, because the issuance thereof will not involve a "sale" as defined in Section 2(3) of said Act.

4. The shares of Common Stock to be issued pursuant to the Stock Option and Incentive Plans have been , or prior to issuance will be, registered under the Securities Act of 1933, as amended.

5. The shares to be issued pursuant to the Executive Incentive Plan are not required to be registered under the Securities Act of 1933, as amended, because the issuance thereof will not involve a "sale" as defined in Section 2(3) of said Act.

Very truly yours,

TBC:nw
5598d:15-16

MERCK & CO., INC.
P.O. BOX 2000
RAHWAY, NEW JERSEY 07065-0900

P. ROY VAGELOS, M.D.
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

March 5, 1992

To the Holders of Common Stock:

I am pleased to advise you that the Board of Directors approved a 3-for-1 split of the Common Stock of Merck & Co., Inc. Accordingly, you will be receiving a certificate for two additional shares for each share you are holding, according to the Company's stock records, as of the close of business on the record date, May 6, 1992. For example, if on May 6 you hold 100 shares, you will then automatically own 300 shares, 100 of which will be represented by the certificate(s) you currently hold. The additional 200 shares will be represented by a new certificate to be mailed to you on or about May 22, 1992.

It will not be necessary to submit old certificate(s) for exchange since such certificate(s) will represent exactly the same number of shares as stated on the face of the certificate(s). It is very important that you keep your present certificate(s). PLEASE DO NOT RETURN THEM TO THE COMPANY, AND ABOVE ALL, DO NOT DESTROY THEM.

NO ACTION IS REQUIRED BY YOU AT THIS TIME.

Sincerely yours,

Roy Vagelos

P. Roy Vagelos

CERTIFICATE OF AMENDMENT TO THE RESTATED CERTIFICATE OF INCORPORATION OF MERCK & CO., INC.

FILED

MAR 31 1992

DANIEL J. DALTON
Secretary of State

TO: The Secretary of State
State of New Jersey

Pursuant to the provisions of Sections 14A:7-15.1(3), 14A:9-2(2) and 14A:9-4(2) of the New Jersey Statutes, Merck & Co., Inc., a corporation organized under the laws of the State of New Jersey (the "Corporation"), executes the following Certificate of Amendment to its Restated Certificate of Incorporation:

1. The name of the corporation is Merck & Co., Inc.

2. The following amendment to the Restated Certificate of Incorporation of the Corporation (the "Amendment") was approved and duly adopted by the Board of Directors of the Corporation on the 25th day of February, 1992 to be effective as provided therein:

"The authorized Common Stock of the Company shall be increased from 900,000,000 to 2,700,000,000 shares and, to such end, that the Restated Certificate of Incorporation of the Company, first paragraph of Article IV (Capital Stock), be amended, effective May 6, 1992, to read as follows:

> The amount of the total authorized capital stock of the Corporation shall be 2,710,000,000 shares consisting of 2,700,000,000 shares of Common Stock, without par value, and 10,000,000 shares of Preferred Stock, without par value, issuable in one or more series."

3. The Amendment to the Restated Certificate of Incorporation will not adversely affect the rights or preferences of the holders of outstanding shares of Common Stock of the Corporation and will not result in the percentage of authorized shares of Common Stock that remains unissued after the share division exceeding the percentage of authorized shares of Common Stock that were unissued before the share division.

4. On the effective date of the Amendment, each issued share of Common Stock of the Corporation, whether outstanding or in Treasury, and each share of Common Stock reserved for issuance under the Company's stock option and incentive plans and its Executive Incentive Plan shall be divided into three shares of Common Stock.

5. The division of shares of Common Stock of the Corporation shall become effective on the 6th day of May, 1992.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by its Vice President and General Counsel and by its Vice President and Secretary, and its Corporate Seal to be hereto affixed on the 27th day of March, 1992.

MERCK & CO., INC.

By: _____
Mary M. McDonald
Vice President and General Counsel

By: _____
Clarence A. Abramson
Vice President and Secretary

PRV/CAA/TBC:nw
5598d:18-19

CT System

April 1, 1992
DATE

JOB #: AE 84777-6

C T Corporation System
28 West State Street
Trenton, NJ 08608
609 396 9400
Fax 609 695 3560

TO: Timothy B. Cleary, Atty.
Merck & Co., Inc.
126 E. Lincoln Avenue
Rahway, NJ 07065

RE: MERCK & CO., INC. (New Jersey Domestic)

Dear Mr. Cleary:

Acting on instructions received through our New York office we enclose:

___ Certificate of Existence

___ Document Copies ___ Certified ___ Plain

___ Certificate of Incorporation

___ Certificate of Authority

xx Other: Certificate of Amendment to Restated Certificate of Incorporation-filed 3-31-92

Very truly yours,

C T CORPORATION SYSTEM

Carolyn A. Grimes

Carolyn A. Grimes
Manager

CAG:mp
Enclosure
Federal Express

TIMOTHY B CLEARY.

APR 2 1992
83436
SD

X EXPEDITED

DEPARTMENT OF STATE
SERVICE REQUEST AND CONTROL RECEIPT

☐ REGULAR

1. RECEIPT SECTION

Payee C T CORPORATION SYSTEM

Address 28 West State Street
Room 1310

Trenton, N. J. 08608

Depository Acct. No. CHECK ATTACHED

3-31-92

Request For:

CERTIFICATE OF AMENDMENT TO RESTATED CERTIFICATE OF INCORPORATION

MERCK & CO., INC.

NY/J.Mojica
AE 84777-6

X Please include certified copy.

OFFICIAL USE ONLY

Receipt No: 92 ... 31 ... 10: 30

Date In:
Time In:

OFFICIAL USE ONLY

☐ REGULAR ☐ TRAVEL

Date Out:
Time Out:

Audit Code 01

2. STATUS SECTION OFFICIAL USE ONLY

Corporation Name

Status As of Incorporation Date

Corp. No. Last Annual Report

Registered Agent

Registered Office

Comments

3. PAYMENT SECTION OFFICIAL USE ONLY

SERVICE RENDERED

1. CORP. FILING	5. CORP. INFO	9. CORP. COPIES
2. CORP. STATUS	6. ANNUAL REPORTS	10. TN & TM
3. UCC 1	7. UCC 3	11. UCC 11
4. OTHER	8. NOTARIES	12. EXP. FEE
13. GRATIS		

Total Due $

FILING FEE

CHECK	CASH	DEP. ACCT. #	☐ MASTER CHG. ☐ VISA	TOTAL
75				

SERVICE CHARGES

5				

Total Collected $ 80

Trans. No.

White—Customer Receipt Yellow—Fiscal Copy Pink—Office Copy Goldenrod—Customer Acknowledgment

CERTIFICATE OF AMENDMENT TO THE RESTATED
CERTIFICATE OF INCORPORATION OF
MERCK & CO., INC.

FILED

MAR 31 1992

DANIEL J. DALTON
Secretary of State

TO: The Secretary of State
State of New Jersey

Pursuant to the provisions of Sections 14A:7-15.1(3), 14A:9-2(2) and 14A:9-4(2) of the New Jersey Statutes, Merck & Co., Inc., a corporation organized under the laws of the State of New Jersey (the "Corporation"), executes the following Certificate of Amendment to its Restated Certificate of Incorporation:

1. The name of the corporation is Merck & Co., Inc.

2. The following amendment to the Restated Certificate of Incorporation of the Corporation (the "Amendment") was approved and duly adopted by the Board of Directors of the Corporation on the 25th day of February, 1992 to be effective as provided therein:

"The authorized Common Stock of the Company shall be increased from 900,000,000 to 2,700,000,000 shares and, to such end, that the Restated Certificate of Incorporation of the Company, first paragraph of Article IV (Capital Stock), be amended, effective May 6, 1992, to read as follows:

> The amount of the total authorized capital stock of the Corporation shall be 2,710,000,000 shares consisting of 2,700,000,000 shares of Common Stock, without par value, and 10,000,000 shares of Preferred Stock, without par value, issuable in one or more series."

3. The Amendment to the Restated Certificate of Incorporation will not adversely affect the rights or preferences of the holders of outstanding shares of Common Stock of the Corporation and will not result in the percentage of authorized shares of Common Stock that remains unissued after the share division exceeding the percentage of authorized shares of Common Stock that were unissued before the share division.

4. On the effective date of the Amendment, each issued share of Common Stock of the Corporation, whether outstanding or in Treasury, and each share of Common Stock reserved for issuance under the Company's stock option and incentive plans and its Executive Incentive Plan shall be divided into three shares of Common Stock.

5. The division of shares of Common Stock of the Corporation shall become effective on the 6th day of May, 1992.

IN WITNESS WHEREOF, the Corporation has caused this Certificate to be signed by its Vice President and General Counsel and by its Vice President and Secretary, and its Corporate Seal to be hereto affixed on the 27th day of March, 1992.

MERCK & CO., INC.

By: _____
Mary M. McDonald
Vice President and General Counsel

By: _____
Clarence A. Abramson
Vice President and Secretary

PRV/CAA/TBC:nw
5598d:18-19

I, The Secretary of State of the State of New Jersey, DO HEREBY CERTIFY that the foregoing is a true copy of CERTIFICATE OF AMENDMENT and the endorsements thereon, as the same is taken from and compared with the original filed in my office on the 31st day of MARCH, A.D. 1992 and now remaining on file and of record therein.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal at Trenton, this day of APRIL, A.D. 1992 1st

SECRETARY OF STATE

Daniel J. Dalton

multiplied by the number of directors to be elected. A stockholder may cast all of such votes for a single nominee or may apportion such votes among any two or more of them, as he or she may see fit. A stockholder may withhold votes from any or all nominees by notation to that effect on the accompanying form of proxy. Except to the extent that a stockholder withholds votes from any or all nominees, the persons named in the accompanying form of proxy, in their sole discretion, will vote such proxy for, and, if necessary, exercise cumulative voting rights to secure, the election of the nominees listed below as directors of the Company.

In the event that any of the nominees becomes unavailable, which the Company does not expect, it is intended that, pursuant to the accompanying proxy, votes will be cast for such substitute nominee or nominees as may be designated by the Board of Directors, unless the Board of Directors reduces the number of directors.

The persons named in the accompanying form of proxy will vote such proxy in accordance with the specification made thereon with respect to each of the other proposals or, if no specification is made, **for** the proposal to ratify the appointment of independent public accountants and **against** the stockholder proposals. A majority of the votes cast by holders of Common Stock is required for approval of these proposals. Abstentions and broker non-votes are not counted as votes cast on any matter to which they relate.

1. ELECTION OF DIRECTORS

Six directors are to be elected at the meeting, one director for a one-year term expiring in 1994, one director elected for the two remaining years of a term expiring in 1995 and three directors are to be elected for full three-year terms expiring in 1996. The Board's nominees are Mr. Lawrence A. Bossidy, Dr. William N. Kelley for terms expiring in 1994; Sir Derek Birkin for a term expiring in 1995 and Mr. H. Brewster Atwater, Jr., Mr. Richard J. Markham and Mr. Dennis Weatherstone for terms expiring in 1996. Dr. Kelley, Sir Derek, Mr. Bossidy and Mr. Markham were elected by the Board effective September, October and November 1992, and January 1993, respectively, subject to election by the stockholders at this Annual Meeting. Mr. Atwater and Mr. Weatherstone have previously been elected by the stockholders. Mr. John J. Horan and Mr. Albert W. Merck, whose terms expire at the meeting, will retire from the Board at that time. In accordance with the By-Laws of the Company, the Board has taken action to decrease the number of directors to thirteen, effective April 27, 1993. After the election of six directors at the meeting, the Company will have thirteen directors, including seven directors whose present terms extend beyond the meeting. Information on the nominees and continuing directors follows.

Nominees

Name, Age and Year First Elected Director	Business Experience and Other Directorships or Significant Affiliations

For terms expiring in 1994

Lawrence A. Bossidy
Age - 58
1992

Chairman of the Board (since January 1992) and Chief Executive Officer (since July 1991), AlliedSignal, Inc. (aerospace, automotive products and engineered materials technology); Vice Chairman, General Electric Company from January 1984 to July 1991

Member, The Business Council, The Business Roundtable, International Council of J.P. Morgan & Co., Incorporated and The President's Advisory Committee on Trade Policy and Negotiations

Merck & Co., Inc.
P. O. Box 100
Whitehouse Station, New Jersey 08889-0100
(908) 423-1000

March 22, 1993

Proxy Statement

This proxy statement is furnished to stockholders of Merck & Co., Inc. in connection with the solicitation by the Board of Directors of proxies to be used at the Annual Meeting of Stockholders of the Company to be held at the Edward Nash Theatre at Raritan Valley Community College, Route 28 and Lamington Road, North Branch, New Jersey, on Tuesday, April 27, 1993, and all adjournments thereof. The Company's Annual Report for 1992, including financial statements, and proxy statement and form of proxy/voting instruction card ("proxy card" or "proxy") are being mailed to the stockholders commencing March 22, 1993.

If a stockholder is a participant in the Automatic Dividend Reinvestment and Cash Payment Plan, the proxy card covers the shares in the account for that plan, as well as shares registered in the participant's name.

However, the proxy card will not serve as a voting instruction card for the shares held for participants in the Employee Savings and Security Plan, Employee Stock Purchase and Savings Plan or Hubbard Farms, Inc. Employee Savings Plan. Instead, these participants will receive from the plan trustees separate voting instruction cards covering these shares. Voting instruction cards must be returned or the shares will not be voted.

Any cards returned without specification will be voted as to each proposal in accordance with the recommendations of the Board of Directors.

The Proxy

Any person giving a proxy has the power to revoke it at any time before it is voted, upon written notice to Clarence A. Abramson, Vice President and Secretary of the Company.

The Company will bear the costs of solicitation of proxies. Following the mailing of proxy soliciting material, proxies may also be solicited by directors, officers and regular employees of the Company in person or by telephone or telegraph. The Company will also reimburse persons holding stock for others in their names or in those of their nominees for their reasonable expenses in sending proxy material to their principals and obtaining their proxies. The Company will use the services of Morrow & Co., 909 Third Avenue, New York, N.Y. 10022-4799, to aid in the solicitation of proxies at an anticipated fee of $12,000 plus reasonable expenses.

Beneficial Ownership of Securities and Voting Rights

On December 31, 1992, no individual, corporation or other entity was known by the Company to own beneficially more than five percent of the Company's outstanding Common Stock.

There are outstanding and entitled to vote as of the record date, March 8, 1993, 1,141,809,458 shares of Common Stock of the Company. The holders of a majority in interest of all the stock of the Company entitled to vote at the meeting, present in person or by proxy, shall constitute a quorum for the transaction of business.

The holders of Common Stock are entitled to one vote per share but, in connection with the cumulative voting feature applicable to the election of directors, each stockholder is entitled to as many votes as shall equal the number of shares held by such person at the close of business on the record date,

Name, Age and Year First Elected Director	Business Experience and Other Directorships or Significant Affiliations
 Dennis Weatherstone Age - 62 1988	Chairman of the Board, J.P. Morgan & Co. Incorporated and Morgan Guaranty Trust Company of New York (banking and other financial services) since January 1990; Chairman of the Executive Committee of J.P. Morgan since February 1991; Chairman of the Executive Committee of Morgan Guaranty since January 1991; President of both from January 1987 to January 1990 Director, General Motors Corporation and Institute for International Economics; President and Trustee, Royal College of Surgeons Foundation Inc.; Trustee, The Economic Club of New York; Member, The Business Council, Council on Foreign Relations and The Business Roundtable

Directors Whose Terms Expire in 1994

 Charles E. Exley, Jr. Age - 63 1988	Retired; formerly Chairman of the Board and Chief Executive Officer, NCR Corporation (business information processing systems) from January 1988 to September 1991; Chairman of the Board, President and Chief Executive Officer from April 1984 to January 1988 Director, Banc One Corporation and Owens-Corning Fiberglas Corporation; Trustee, The Andrew W. Mellon Foundation; Member, The Business Council and Board of Overseers, Columbia University Graduate School of Business
 Ruben F. Mettler, Ph.D. Age - 69 1976	Director, TRW Inc. (space and defense, automotive and information systems and services); Chairman of the Board and Chief Executive Officer from December 1977 to December 1988 Director, BankAmerica Corporation and Bank of America, NT&SA; Chairman, Board of Trustees, California Institute of Technology; Member, The Business Council and National Academy of Engineering
 Richard S. Ross, M.D. Age - 69 1984	Dean Emeritus of the Medical Faculty since July 1990 (Dean from 1975-1990) and Professor of Medicine (cardiology) for more than five years, The Johns Hopkins University School of Medicine Director, Waverly Press; Trustee, The Johns Hopkins Hospital; Member, Institute of Medicine of the National Academy of Sciences

Name, Age and Year First Elected Director	Business Experience and Other Directorships or Significant Affiliations
 William N. Kelley, M.D. Age - 53 1992	Chief Executive Officer, University of Pennsylvania Medical Center and Executive Vice President, Dean of the School of Medicine and Professor of Medicine and Biophysics, University of Pennsylvania since October 1989; Professor and Chairman of Internal Medicine and Professor of Biological Chemistry, University of Michigan from August 1975 to September 1989 Director, Academic Medical Center Consortium and Zoological Society of Philadelphia; Trustee, Emory University; Member, Institute of Medicine of the National Academy of Sciences, Advisory Council to the Director of NIH, National Advisory Board of Rockefeller/Pew Health of the Public Program, Board of Managers of Wistar Institute, Board of Governors of Leonard Davis Institute of Health Economics
For a term expiring in 1995	
 Sir Derek Birkin Age - 63 1992	Chairman of the Board, The RTZ Corporation PLC (international mining and industrial companies) since July 1991; Chief Executive and Deputy Chairman from April 1985 to June 1991 Director, Barclays Bank PLC, CRA Limited (Australia) and Carlton Communications PLC; Member, Council of The Industrial Society; Trustee, The Royal Opera House
For terms expiring in 1996	
 H. Brewster Atwater, Jr. Age - 61 1988	Chairman of the Board and Chief Executive Officer, General Mills, Inc. (consumer foods and restaurants) for more than five years Director, American Public Radio and General Electric Company; Member, The Business Roundtable, The Business Council and International Council of J.P. Morgan & Co. Incorporated
 Richard J. Markham Age - 42 1993	President and Chief Operating Officer of the Company since January 1993; Senior Vice President and President, Merck Human Health Division from April 1991 to December 1992; Senior Vice President, Europe, Merck Sharp & Dohme International Division from July 1989 to March 1991; Vice President, Marketing, Merck Sharp & Dohme Division from January 1987 to June 1989 Director, Pharmaceutical Manufacturers Association; Member, Dean's Advisory Council, Purdue University School of Pharmacy and Pharmacal Sciences

Merck & Co., Inc.

P.O. Box 100
Whitehouse Station, New Jersey 08889-0100
(908) 423-1000

Notice of Annual Meeting of Stockholders

April 27, 1993

To the Stockholders:

The Annual Meeting of Stockholders of Merck & Co., Inc. will be held on Tuesday, April 27, 1993, at 2:00 p.m., at the Edward Nash Theatre at Raritan Valley Community College, Route 28 and Lamington Road, North Branch, New Jersey, for the following purposes:

- To elect two directors for terms ending in 1994, one director for a term ending in 1995 and three directors for terms ending in 1996;
- To consider and act upon a proposal to ratify the appointment of independent public accountants for 1993;
- To consider and act upon a stockholder proposal concerning executive compensation;
- To consider and act upon a stockholder proposal concerning confidential voting;
- To consider and act upon a stockholder proposal concerning annual election of directors; and
- To transact such other business as may properly come before the meeting and all adjournments thereof.

Only stockholders of record at the close of business on March 8, 1993, the record date and time fixed by the Board of Directors, are entitled to notice of, and to vote at, said meeting. It is always important for you, as a stockholder, to exercise your right to vote.

Admission to the meeting will be by ticket only. If you are a stockholder of record and plan to attend, please sign and return the enclosed ticket request card. If you are a stockholder whose shares are not registered in your own name and you plan to attend, please request a ticket by writing to the Office of the Secretary, WS 3AB-05, Merck & Co., Inc., P.O. Box 100, Whitehouse Station, New Jersey 08889-0100. Evidence of your ownership, which you can obtain from your bank, broker, etc., must accompany your letter.

In order that your stock may be represented at the meeting in case you are not personally present, please sign and date the enclosed proxy/voting instruction card and return it promptly in the accompanying addressed envelope.

By order of the Board of Directors,

CLARENCE A. ABRAMSON
Vice President and Secretary

March 22, 1993

Name, Age and Year First Elected Director	Business Experience and Other Directorships or Significant Affiliations

Directors Whose Terms Expire in 1995

William G. Bowen, Ph.D.
Age - 59
1986

President, The Andrew W. Mellon Foundation (philanthropic foundation) since January 1988; President, Princeton University from July 1972 to January 1988

Director, American Express Company and Reader's Digest, Inc.; Trustee, Denison University

Carolyne K. Davis, Ph.D.
Age - 61
1989

International Health Care Consultant for more than five years

Director, Beckman Instruments, Pharmaceutical Marketing Services, Inc. and The Prudential Insurance Company of America, Inc.; Member, Board of Governors of the American Red Cross

Lloyd C. Elam, M.D.
Age - 64
1973

Professor of Psychiatry, Meharry Medical College for more than five years

Director, Dominion Bank of Middle Tennessee, Premark, Inc. and BellSouth Telecommunications, Inc.; Trustee, Fisk University, Tennessee Department of Mental Health and the Alfred P. Sloan Foundation

P. Roy Vagelos, M.D.
Age - 63
1984

Chairman of the Board (since April 1986) and Chief Executive Officer (since July 1985) of the Company; President from July 1985 to December 1992

Director, PepsiCo, Inc., The Prudential Insurance Company of America, Inc. and TRW Inc.; Trustee, University of Pennsylvania, The Rockefeller University and The Danforth Foundation; Member, The Business Council, The Business Roundtable and National Academy of Sciences and its Institute of Medicine

Board Committees

There are four standing committees of the Board of Directors: the Executive Committee, the Audit Committee, the Compensation and Benefits Committee and the Committee on Treasury Stock. Members of the individual committees are named below:

Executive	Audit	Compensation and Benefits	Treasury Stock
L. C. Elam	D. Birkin	H. B. Atwater, Jr.(a)	L. C. Elam
C. E. Exley, Jr.	C. K. Davis	L. A. Bossidy	C. E. Exley, Jr.
J. J. Horan	C. E. Exley, Jr.(b)	W. G. Bowen	J. J. Horan
R. J. Markham	W. N. Kelley	R. F. Mettler	R. J. Markham
R. F. Mettler	A. W. Merck(a)	P. S. Ross(b)	R. F. Mettler(a)
P. R. Vagelos(a)	D. Weatherstone		P. R. Vagelos

(a) Chairman (b) Vice Chairman

The Executive Committee, among its varied functions, is charged with making recommendations with respect to Board composition and acting as a screening and nominating committee for candidates considered for election to the Board. In this capacity it concerns itself with the composition of the Board with respect to depth of experience, balance of professional interests, required expertise and other factors and evaluates prospective nominees identified by the Committee on its own initiative or referred to it by the other Board members, management, stockholders or external sources. Names of prospective candidates may be submitted to the Secretary of the Company for referral to the Committee. Any stockholder who wishes to make a nomination at an annual or special meeting for the election of directors must do so in compliance with procedures set forth in the Company's By-Laws.

Other important functions of the Executive Committee are acting for the Board of Directors when action is required between Board meetings, consulting with and advising management on certain important proposals and policy matters, reviewing and making recommendations with respect to financial policy, and monitoring management and Company performance with respect to matters of public responsibility and interest concerning the Company and making recommendations thereon.

The Audit Committee, consisting entirely of independent directors, oversees the Company's financial reporting process and internal controls. It consults with management, the internal auditors and the Company's independent auditors during the year on matters related to the annual audit, internal controls, the published financial statements, and the accounting principles and auditing procedures being applied. It meets with the auditors after year-end to discuss the results of their examination. The Committee reviews management's evaluation of the auditors' independence, approves audit fees and non-audit services to ensure no compromise of auditor independence and submits to the Board of Directors its recommendations for the appointment of an audit firm for the upcoming year. It reviews the insurance program of the Company periodically and makes recommendations to the Board of Directors on insurance policy and is also charged with monitoring compliance with the Foreign Corrupt Practices Act and the Company's policies on ethical business practices and reporting on the same to the Board of Directors annually.

The Compensation and Benefits Committee, consisting entirely of independent directors, administers the Company's Executive Incentive Plan and stock option and incentive program and also appoints and monitors the Management Pension Investment Committee. The Committee consults generally with management on matters concerning executive compensation and on pension, savings and welfare benefit plans where Board or stockholder action is contemplated with respect to the adoption of or amendments to such plans. It makes recommendations to the Board of Directors on organization, succession and compensation generally, individual salary rates, supplemental compensation and special awards, the election of officers, consultantships and similar matters where Board approval is required.

The Committee on Treasury Stock, in accordance with directions given by the Board of Directors, authorizes the purchase by the Company of outstanding shares of Company stock out of retained

earnings of the Company. Such purchases are made from time to time under regulations determined by the Committee.

Board and Board Committee Meetings

In the year 1992, there were eleven meetings held by the Board of Directors. Board committees met as follows during 1992: the Executive Committee, five times; the Audit Committee, four times; the Compensation and Benefits Committee, five times; the Committee on Treasury Stock jointly with the Executive Committee, once. The total combined attendance for all Board and Committee meetings was 95%. All directors attended at least 75% of the meetings of the Board and of the Committees on which they served.

Relationships with Outside Firms

Dennis Weatherstone is Chairman of the Boards and Executive Committees of J. P. Morgan & Co. Incorporated and Morgan Guaranty Trust Company, which performed commercial and investment banking services for the Company during 1992 and which are expected to perform such services for the Company during 1993.

Compensation of Directors

Each director who is not an employee of the Company is compensated for services as a director by an annual retainer of $38,000 and a meeting fee of $1,200 for each Board and Committee meeting attended. In addition, Chairmen of the Compensation and Benefits Committee and of the Audit Committee are compensated for such service by an annual retainer of $3,000 and the Chairman of the Committee on Treasury Stock is compensated for such service by an annual retainer of $1,000. Those directors who are employees of the Company do not receive any compensation for their services as directors. The Company reimburses all directors for travel and other necessary business expenses incurred in the performance of their services for the Company.

Under the Plan for Deferred Payment of Directors Compensation, each director may elect to defer all or a portion of such compensation. Any amount so deferred is, at the director's election, valued as if invested in a money market fund or the Company's Common Stock and is payable in cash in installments or as a lump-sum upon termination of services as a director.

Under the Retirement Plan for the Directors of Merck & Co., Inc., directors (excluding those who are current or former employees of the Company) who have served on the Board for five years will receive, upon normal retirement (generally age 70), an annual retirement benefit of 50% of their last annual retainer. Each additional year of service up to ten years increases the benefit by 10%, to a maximum of 100% of the retainer. Any such directors who have served on the Board for ten years will receive, in the event of early retirement (minimum age 65), an annual benefit of 100% of their last annual retainer. The applicable benefit is payable for the lifetime of the retired director.

Under the Non-Employee Directors Stock Option Plan, approved by the stockholders on April 28, 1992, directors (excluding those who are current or former employees of the Company) each receive an option to purchase 1,000 shares of Common Stock each year on the first Friday following the Company's Annual Meeting of Stockholders. The options become exercisable five years from date of grant and expire ten years from date of grant. The exercise price is the higher of (i) the simple average of the high and low prices at which the Common Stock is traded on the date of grant, or (ii) the price of the last sale of Common Stock on that date. The exercise price is payable in cash at the time the stock option is exercised.

Dr. Jacques Genest and Mr. Paul G. Rogers, who retired from the Company's Board of Directors on April 28, 1992, each received on July 28, 1992 an option to purchase 3,000 shares of Common Stock at an exercise price of $51.25. These options had other terms identical to those of the options issued under the Non-Employee Directors Stock Option Plan.

Security Ownership of Directors and Executive Officers

The following table sets forth beneficial ownership of Common Stock of the Company as of December 31, 1992 by each director of the Company, each executive officer of the Company named in the Summary Compensation Table herein and by all directors and executive officers as a group. Unless otherwise stated, the beneficial owners exercise sole voting and/or investment power over their shares.

Name of Beneficial Owner	Common Stock		Percent of Class
	Shares Owned	Right to Acquire Ownership Under Options Exercisable Within 60 Days	
P. Roy Vagelos	856,742(a)	1,431,678	*
H. Brewster Atwater, Jr.	1,500	–	*
Derek Birkin	500	–	*
Lawrence A. Bossidy	5,000	–	*
William G. Bowen	10,800	–	*
Carolyne K. Davis	670(b)	–	*
Lloyd C. Elam	6,750	–	*
Charles E. Exley, Jr.	1,500	–	*
William N. Kelley	100	–	*
Richard J. Markham	4,341(c)	111,600	*
Ruben F. Mettler	18,000	–	*
Richard S. Ross	7,500	–	*
Dennis Weatherstone	1,800	–	*
Jerry T. Jackson	51,722(d)	144,000	*
Edward M. Scolnick	62,321(e)	192,000	*
Francis H. Spiegel, Jr.	447,532(f)	225,000	*
John L. Zabriskie	54,106(g)	203,850	*
All Directors and Executive Officers as a Group	1,796,094(h)	3,042,269	*

(a) Includes 2,718 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the account of Dr. Vagelos. Does not include 47,630 shares of Common Stock held by members of Dr. Vagelos' family and in which beneficial ownership is disclaimed by him.

(b) Includes 40 shares of Common Stock held by Dr. Davis in custody for a grandchild.

(c) Includes 1,341 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the account of Mr. Markham.

(d) Includes 6,167 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the account of Mr. Jackson.

(e) Includes 1,241 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the account of Dr. Scolnick.

(f) Includes 29,316 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the account of Mr. Spiegel. Does not include 20,610 shares of Common Stock held by members of Mr. Spiegel's family and in which beneficial ownership is disclaimed by him.

(g) Includes 1,061 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the account of Dr. Zabriskie. Does not include 106 shares held by Dr. Zabriskie's spouse and 94 shares held by Dr. Zabriskie in custody for minor children and in which beneficial ownership is disclaimed by him.

(h) Includes 69,915 shares of Common Stock held by the Trustee of the Employee Savings and Security Plan for the accounts of all directors and executive officers. Does not include 96,676 shares of Common Stock held by family members and in which beneficial ownership is disclaimed.

* Less than one percent of the Company's outstanding shares of Common Stock.

Compensation and Benefits Committee Report on Executive Compensation

The Compensation and Benefits Committee of the Board approves compensation objectives and policy for all employees and sets compensation for the Company's executive officers, including the individuals named in the Summary Compensation Table below.

The Compensation and Benefits Committee is comprised entirely of independent outside directors.

Objectives and Policies

The Compensation and Benefits Committee seeks to:

- provide rewards which are closely linked to Company and individual performance
- align the interests of the Company's employees with those of its stockholders through potential stock ownership
- ensure that compensation and benefits are at levels which enable the Company to attract and retain the high-quality employees it needs.

Consistent with these objectives and in keeping with the long-term focus required for the Company's pharmaceutical business, it is the policy of the Compensation and Benefits Committee to make a high proportion of executive officer compensation and awards under stock ownership programs dependent on long-term performance and on enhancing stockholder value.

Executive officer compensation and stock ownership programs have both short-term and longer-term components. Short-term components include base salary and annual bonus under the stockholder-approved Executive Incentive Plan ("EIP"). Longer-term components include stock option awards under the stockholder-approved Incentive Stock Plan ("ISP") and awards of Performance Shares under the Strategic Performance Feature of the ISP. The Strategic Performance Feature currently provides for a payment of stock at the end of a five-year period, based on the Company's achievement of specified performance targets as compared to other leading health companies at the end of the period.

The Company employs a formal system for developing measures of and evaluating executive officer performance. Executive officer base salary and individual bonus awards are determined with reference to Company-wide, divisional and individual performance for the previous fiscal year, based on a wide range of quantitative and qualitative measures which permit comparisons with competitors' performance and internal targets set before the start of each fiscal year. Quantitative measures include earnings-per-share growth and return-on-assets. Qualitative assessments include the quality and measured progress of research, marketing and manufacturing operations and the success of strategic actions such as the formation of marketing and research alliances. In addition to Company-wide measures of performance, the Compensation and Benefits Committee considers performance factors particular to each executive officer, such as the performance of the division or divisions for which such officer had management responsibility and individual managerial accomplishments.

Within the total number of shares authorized by stockholders, the Compensation and Benefits Committee aims to provide stock option awards broadly and deeply throughout the organization. Individual executive officer stock option awards are based on level of position, individual contribution and the Company's stock ownership objectives for executives. The Company's long-term performance ultimately determines compensation from stock options, since stock option value is entirely dependent on the long-term growth of the Company's stock price. Performance Shares under the Strategic Performance Feature of the ISP are awarded to executive officers based on the same factors as stock option grants. Just as for stock options, the ultimate value of the Performance Shares is dependent on the Company's long-term performance.

The Company periodically retains outside compensation and benefit consultants to compare base salary and incentive compensation programs for the Company's executive officers with those of other leading industrial and healthcare firms and to ensure that they are appropriate to the Company's objectives.

Compensation of the Chief Executive Officer

The Compensation and Benefits Committee believes that Dr. Vagelos' compensation as Chief Executive Officer appropriately reflects outstanding performance in the short and longer term.

In determining Dr. Vagelos' base salary, annual bonus, stock option grant and Performance Share Award in 1992, the Compensation and Benefits Committee considered both the Company's overall performance and Dr. Vagelos' individual performance by the same measures described above for determining executive officer compensation. It also considered the compensation received by chief executive officers of other leading healthcare and industrial companies, as well as incentives for future superior performance.

By the wide range of measures considered by the Compensation and Benefits Committee, the Company's results in 1992 were outstanding. Earnings-per-share growth and return-on-assets performance were strong, providing necessary support for a research-based organization. Important strategic actions were taken, especially the formation of strategic alliances, to enhance the Company's future growth and profitability. The Company's performance has also been outstanding in the longer term. Total return to Company stockholders (stock price appreciation plus dividends) averaged 23% per annum for the five-year period ending December 31, 1992.

This outstanding long-term performance is illustrated by the five-year performance graph on page 15, which compares total stockholder return for the Company with the returns of the Standard and Poor's 500 Index ("S&P 500 Index") and the Dow Jones Pharmaceutical Index ("DJPI"). Also included on page 16 is a graph comparing the Company's stock-price appreciation (not including dividends) for the ten-year period ending December 31, 1992 with the stock-price appreciation (not including dividends) of the S&P 500 Index and the DJPI.

In addition to an option to purchase 180,000* shares of Common Stock at an exercise price of $51.833* (the grant date market price) awarded to Dr. Vagelos on March 3, 1992 under the Company's annual stock option program, on July 28, 1992 the Compensation and Benefits Committee made a special, one-time grant to Dr. Vagelos of an option to purchase 500,000 shares at an exercise price of $51.25 (the grant date market price). No part of this special grant will be exercisable before July 28, 1997, and the option will expire on July 27, 2002. The Compensation and Benefits Committee's decision, which was endorsed by the Board of Directors, was consistent with the Company's emphasis on long-term performance in that it ensured that Dr. Vagelos' compensation would be substantially dependent on long-term stock performance. This special, one-time stock option grant was made in lieu of future annual stock option grants and in lieu of base salary increases after August 1991. Dr. Vagelos will reach the Company's mandatory retirement age in 1994. The Committee recognized that freezing Dr. Vagelos' base salary would adversely impact his bonus earnings and pensionable salary.

H. Brewster Atwater, Jr.
Chairman

Richard S. Ross
Vice Chairman

Lawrence A. Bossidy

William G. Bowen

Ruben F. Mettler

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* Number of shares and grant date market price reflect the Company's 3-for-1 stock split on May 6, 1992.

Summary Compensation Table

Name and Principal Position	Year	Annual Compensation: Salary	Annual Compensation: Bonus	Annual Compensation: Other Annual Compensation	Long Term Compensation: Awards: Restricted Stock Awards	Long Term Compensation: Awards: Number of Shares Covered By Option Grants(d)	Long Term Compensation: Payouts: Long Term Incentive Plan Payout	All Other Compensation
P. Roy Vagelos	1992	$1,125,000	$1,400,000	$ –	–	680,000(e)	–	$5,721(g)
Chairman of the Board, President and	1991	1,052,083	1,300,000	*	–	180,300	$992,400(f)	*
Chief Executive Officer	1990	941,667	1,150,000	*	–	225,000	–	*
Edward M. Scolnick	1992	540,000	650,000	102,983(a)	–	54,000	–	3,433(g)
Senior Vice President and President,	1991	487,500	510,000	*	–	36,300	285,200(f)	*
Merck Research Laboratories	1990	385,000	420,000	*	–	48,000	–	*
Francis H. Spiegel, Jr.	1992	540,000	650,000	–	–	54,000	–	5,616(g)
Senior Vice President	1991	487,500	580,000	*	–	54,300	263,300(f)	*
	1990	385,000	460,000	*	–	48,000	–	*
Jerry T. Jackson	1992	471,250	565,000	124,629(b)	–	54,000	–	5,721(g)
Senior Vice President	1991	405,000	490,000	*	–	54,300	186,000(f)	*
	1990	303,750	335,000	*	–	48,000	–	*
John L. Zabriskie	1992	471,250	565,000	–	–	54,000	–	7,694(h)
Senior Vice President and President,	1991	405,000	490,000	*	–	54,300	–	*
Merck Manufacturing Division	1990	303,750	335,000	*	–	48,000	–	*
Richard J. Markham	1992	463,750	560,000	917(c)	–	54,000	–	4,554(g)
Senior Vice President and President,	1991	356,250	440,000	*	–	54,300	–	*
Merck Human Health Division	1990	205,050	250,000	*	–	36,000	–	*

(a) Includes $81,717 for air commuting services.

(b) Includes $118,130 for air commuting services.

(c) Reimbursement of tax liability for relocation expenses.

(d) No stock appreciation rights were granted. Options have been adjusted to reflect the Company's 3-for-1 stock split on May 6, 1992.

(e) Includes a special, one-time grant of an option to purchase 500,000 shares made to Dr. Vagelos on July 28, 1992 in lieu of future annual option grants and in lieu of base salary increases after August 1991. This special option will become exercisable on July 28, 1997.

(f) EIP Strategic Performance Award paid in 1991 for services performed during the five-year award cycle 1986-1990. Under the Strategic Performance Feature of the Company's EIP, awards have been paid in cash every other year following completion of five-year award cycles. Awards for the last five-year cycle (1988-1992) under the EIP will be paid in 1993. Strategic Performance Awards since 1989 have been made annually under the Company's ISP and are payable in the year after completion of a five-year award cycle, with the first payout in 1994. While Strategic Performance Awards under the ISP are currently payable in stock, the Compensation and Benefits Committee reserves the right to pay out Strategic Performance Awards under the ISP in cash, stock or a combination of cash and stock.

(g) Company contributions to the Employee Savings and Security Plan.

(h) Company contributions to the Employee Savings and Security Plan totalled $5,719. Company-paid premium for survivor income insurance totalled $1,975.

* In accordance with transitional provisions applicable to the revised rules for executive compensation disclosure adopted by the Securities and Exchange Commission, amounts of Other Annual Compensation and All Other Compensation are not included for 1991 and 1990.

1992 Stock Option Grants

The following table sets forth stock options granted in 1992 to each of the Company's executive officers named in the Summary Compensation Table and to all employees as a group. All professional employees are eligible for stock option grants based on individual performance. The Company did not issue any stock appreciation rights. The table also sets forth the hypothetical gains that would exist for the options at the end of their ten-year terms, assuming compound rates of stock appreciation of 0%, 5% and 10%. The actual future value of the options will depend on the market value of the Company's Common Stock. All references below to prices and number of shares have been adjusted as necessary to reflect the Company's 3-for-1 stock split on May 6, 1992. All option exercise prices are based on market price on the grant date.

	Individual Grants					Potential Realizable Value at Assumed Annual Rates of Stock Price Appreciation at End of Ten-Year Option Terms(c)		
Name	Date of Grant	Number of Shares Covered by Option Grants	% of Total Options Granted To Employees in 1992	Exercise Price	Expiration Date	0%	5%	10%
P. Roy Vagelos	3/03/92	180,000	3.48%	$51.833	3/02/02	-	$ 5,867,640	$ 14,869,620
	7/28/92	500,000(b)	9.66	51.250	7/27/02	-	16,115,500	40,839,500
Edward M. Scolnick	3/03/92	54,000	1.04	51.833	3/02/02	-	1,760,292	4,460,886
Francis H. Spiegel, Jr.	3/03/92	54,000	1.04	51.833	3/02/02	-	1,760,292	4,460,886
Jerry T. Jackson	3/03/92	54,000	1.04	51.833	3/02/02	-	1,760,292	4,460,886
John L. Zabriskie	3/03/92	54,000	1.04	51.833	3/02/02	-	1,760,292	4,460,886
Richard J. Markham	3/03/92	54,000	1.04	51.833	3/02/02	-	1,760,292	4,460,886
All employees as a group	(a)	5,173,717	100%	(a)	(a)	-	151,397,809(d)	383,669,896(d)

	0%	5%	10%
Total potential stock price appreciation from March 3, 1992 to March 2, 2002 for all stockholders at assumed rates of stock price appreciation(e)	-	$37,314,760,993	$94,562,092,485
Potential realizable value of options granted to all employees at the end of their ten-year option term as a percentage of total potential stock price appreciation from March 3, 1992 to March 2, 2002 for all stockholders at assumed rates of stock price appreciation	-	0.41%	0.41%

(a) Options were granted on March 3, 1992; July 28, 1992; September 1, 1992 and October 27, 1992, with prices ranging from $43.25 to $51.833. Options granted on March 3, 1992; July 28, 1992 and September 1, 1992 become exercisable March 3, 1993; July 28, 1997 and September 1, 1997, respectively. Some options granted on October 27, 1992 are exercisable October 27, 1993; the remainder are exercisable October 27, 1995. Expiration is ten years from the date of grant.

(b) A special, one-time stock option grant was made to Dr. Vagelos on July 28, 1992 in lieu of future annual stock option grants and in lieu of base salary increases after August 1991.

(c) These amounts, based on assumed appreciation rates of 0% and the 5% and 10% rates prescribed by the Securities and Exchange Commission rules are not intended to forecast possible future appreciation, if any, of the Company's stock price. The Company did not use an alternative formula for a grant date valuation as it is not aware of any formula which will determine with reasonable accuracy a present value based on future unknown or volatile factors.

(d) No gain to the optionees is possible without an increase in stock price, which will benefit all stockholders.

(e) Based on a price of $51.833 on March 3, 1992 and a total of 1,144,694,797 shares of Common Stock outstanding.

Aggregate Option Exercises and Year-end Option Values

The following table sets forth the number of shares acquired on exercise of stock options and the aggregate gains realized on exercise in 1992 by the Company's executive officers named in the Summary Compensation Table. The table also sets forth the number of shares covered by exercisable and unexercisable options held by such executives on December 31, 1992 and the aggregate gains that would have been realized had these options been exercised on December 31, 1992, even though these options were not exercised, and the unexercisable options could not have been exercised, on December 31, 1992.

Name	Shares Acquired On Exercise During 1992(a)	Value Realized(b)	Number of Shares Covered by Unexercised Options on 12/31/92		Value of Unexercised In-The-Money Options as of 12/31/92(c)	
			Exercisable	Unexercisable	Exercisable	Unexercisable
P. Roy Vagelos	—	$ —	1,431,678	800,300	$25,928,080	$2,875,247
Edward M. Scolnick	42,000	1,266,720	192,000	54,300	3,059,172	287
Francis H. Spiegel, Jr.	—	—	225,000	54,300	2,900,916	287
Jerry T. Jackson	54,390	1,734,942	144,000	54,300	1,500,264	287
John L. Zabriskie	8,550	337,429	203,850	54,300	2,927,612	287
Richard J. Markham	19,035	689,518	111,600	54,300	954,007	287

(a) Adjusted to reflect the Company's 3-for-1 stock split on May 6, 1992.

(b) Market value on the date of exercise of shares covered by options exercised, less option exercise price.

(c) Market value of shares covered by in-the-money options on December 31, 1992, less option exercise price. Options are in-the-money if the market value of the shares covered thereby is greater than the option exercise price.

Long-term Incentive Plan Awards

The following table sets forth the Performance Share Awards made in 1992 under the Strategic Performance Feature of the Company's ISP to each of the executive officers named in the Summary Compensation Table. The Strategic Performance Feature currently provides for a payment of stock at the end of a five-year period, based on the Company's achievement of specified performance targets at the end of the period as compared to a group of other leading health companies chosen by the Compensation and Benefits Committee of the Board at the start of the period. Payout of 1992 Performance Share Awards will be made in 1997. All references below to prices and number of shares have been adjusted as necessary to reflect the Company's 3-for-1 stock split on May 6, 1992.

Name	Long-Term Incentive Plan Awards in 1992					
			Estimated Future Payouts Under Non-Stock Price Based Plans			
	Number of Shares Awarded(a)	Performance Period Until Payout	Below Threshold (# of Shares)	Threshold(c) (# of Shares)	Target (# of Shares)	Maximum(c) (# of Shares)
P. Roy Vagelos	(b)	5 years	0	(b)	(b)	22,005
Edward M. Scolnick	7,980	5 years	0	1,995	7,980	13,965
Francis H. Spiegel, Jr.	7,980	5 years	0	1,995	7,980	13,965
Jerry T. Jackson	6,729	5 years	0	1,683	6,729	11,775
John L. Zabriskie	6,729	5 years	0	1,683	6,729	11,775
Richard J. Markham	6,258	5 years	0	1,566	6,258	10,953

(a) Represents target Performance Share Awards under the Strategic Performance Feature of the ISP for the 1992-1996 award period. Actual number of shares to be paid out at the end of this five-year period will be based on the Company's performance ranking for earnings-per-share growth and return-on-assets versus a group of leading health companies chosen at the beginning of the period. The value of shares at the start of the award period was $52.125.

(b) Target and threshold performance are not set for Dr. Vagelos. The Compensation and Benefits Committee, in its discretion, may determine award payment, taking into consideration the extent to which performance goals have been met and factors such as the Company's scientific integrity and research productivity and the significance of Dr. Vagelos' contribution to the Company during the award period.

(c) Threshold represents 25% of target. Maximum represents 175% of target. No payout will be made unless the Company achieves the median performance level in comparison with the leading health companies.

Retirement Benefits

The following table shows the estimated annual benefits payable under the Retirement Plan for Salaried Employees and the Supplemental Retirement Plan at age 65 to persons in specified compensation and years-of-service classifications, based on a straight-life annuity form of retirement income.

Average Pension Compensation During Highest Five Consecutive Years in the Last Ten Years Before Retirement	Estimated Annual Retirement Benefits For Years of Credited Service Shown Below*			
	10	20	30	35
$ 800,000	$160,000	$ 320,000	$ 480,000	$ 560,000
1,000,000	200,000	400,000	600,000	700,000
1,200,000	240,000	480,000	720,000	840,000
1,400,000	280,000	560,000	840,000	980,000
1,600,000	320,000	640,000	960,000	1,120,000
1,800,000	360,000	720,000	1,080,000	1,260,000
2,000,000	400,000	800,000	1,200,000	1,400,000
2,200,000	440,000	880,000	1,320,000	1,540,000
2,400,000	480,000	960,000	1,440,000	1,680,000
2,600,000	520,000	1,040,000	1,560,000	1,820,000
2,800,000	560,000	1,120,000	1,680,000	1,960,000
3,000,000	600,000	1,200,000	1,800,000	2,100,000

* Benefits shown above do not include minimum or enhanced pension provisions for *bona fide* executives and are exclusive of the social security offset provided for by the benefit formula.

As of December 31, 1992, full years of actual credited service in these Plans are: Dr. Vagelos — 17 years; Mr. Spiegel — 26 years; Dr. Scolnick — 10 years; Mr. Jackson — 27 years; Dr. Zabriskie — 27 years; and Mr. Markham — 19 years.

Pension compensation for a particular year as used for the calculation of retirement benefits includes salaries and annual EIP awards received during the year. Pension compensation for 1992 differs from compensation reported in the Summary Compensation Table in that pension compensation includes the annual incentive awards received in 1992 for services in 1991 rather than the incentive awards paid in 1993 for services in 1992. Pension compensation for 1992 was $1,050,000 for Dr. Scolnick and $903,750 for Mr. Markham. Pension compensation for the others named in the Summary Compensation Table was within 10% of the amounts reported in that table.

Compensation Committee Interlocks and Insider Participation

H. Brewster Atwater, Jr., Lawrence A. Bossidy, William G. Bowen, Ruben F. Mettler, Richard S. Ross, P. Roy Vagelos and Dennis Weatherstone served on the Compensation and Benefits Committee during 1992.

Dr. Vagelos served on the Compensation and Benefits Committee as a non-voting, *ex officio* member until July 27, 1992. While a member, he was Chairman of the Board, President and Chief Executive Officer of the Company.

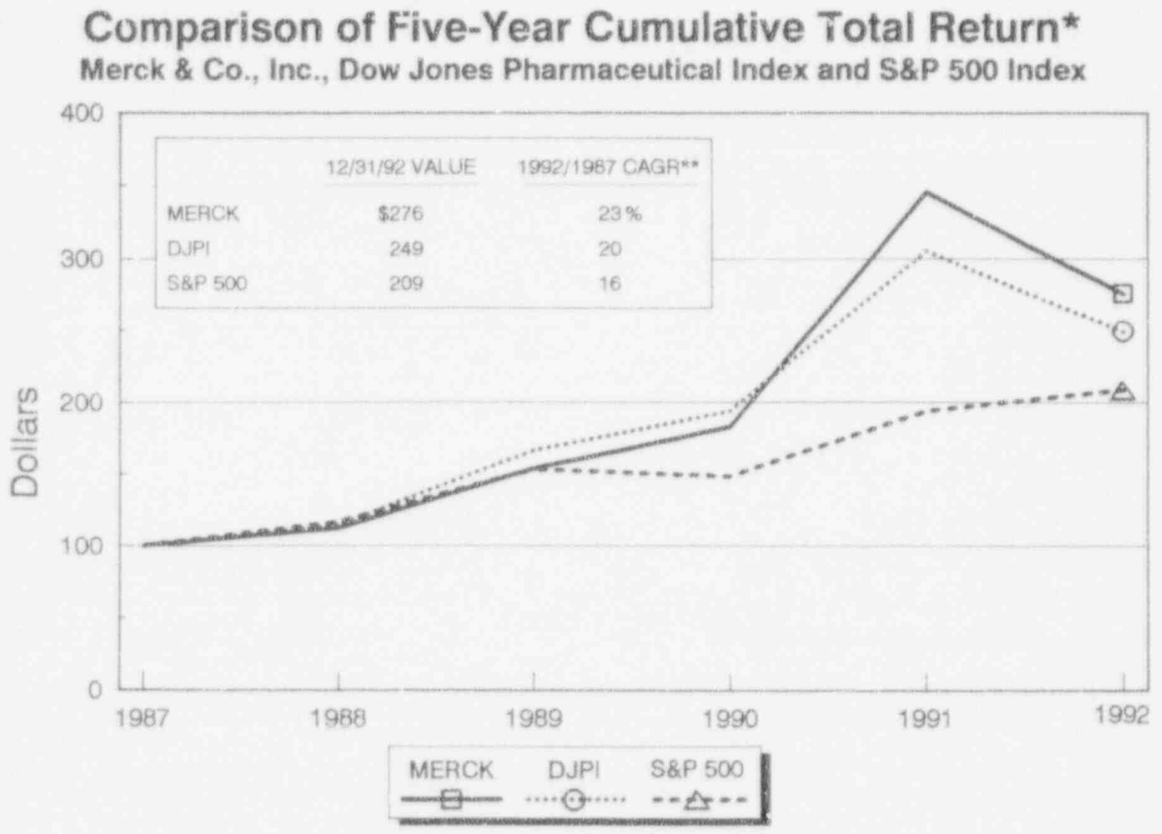
Dr. Vagelos serves on the Compensation and Stock Option Committee of the Board of TRW Inc. Dr. Ruben F. Mettler, a member of the Compensation and Benefits Committee, is a Director and former Chairman of the Board and Chief Executive Officer of TRW Inc.

Mr. Dennis Weatherstone served as Chairman of the Compensation and Benefits Committee until April 28, 1992. Mr. Weatherstone is Chairman of the Boards and Executive Committees of J.P. Morgan & Co. Incorporated and Morgan Guaranty Trust Company, which performed commercial and investment banking services for the Company during 1992 and which are expected to perform such services for the Company during 1993.

Performance Graphs

Five-Year Total Return

The following graph compares the cumulative total stockholder return (stock price appreciation plus dividends) on the Company's Common Stock with the cumulative total return of the S&P 500 Index and the DJPI for the five years ending December 31, 1992.



* Assumes that the value of the investment in Merck Common Stock and each index was $100 on December 31, 1987 and that all dividends were reinvested.

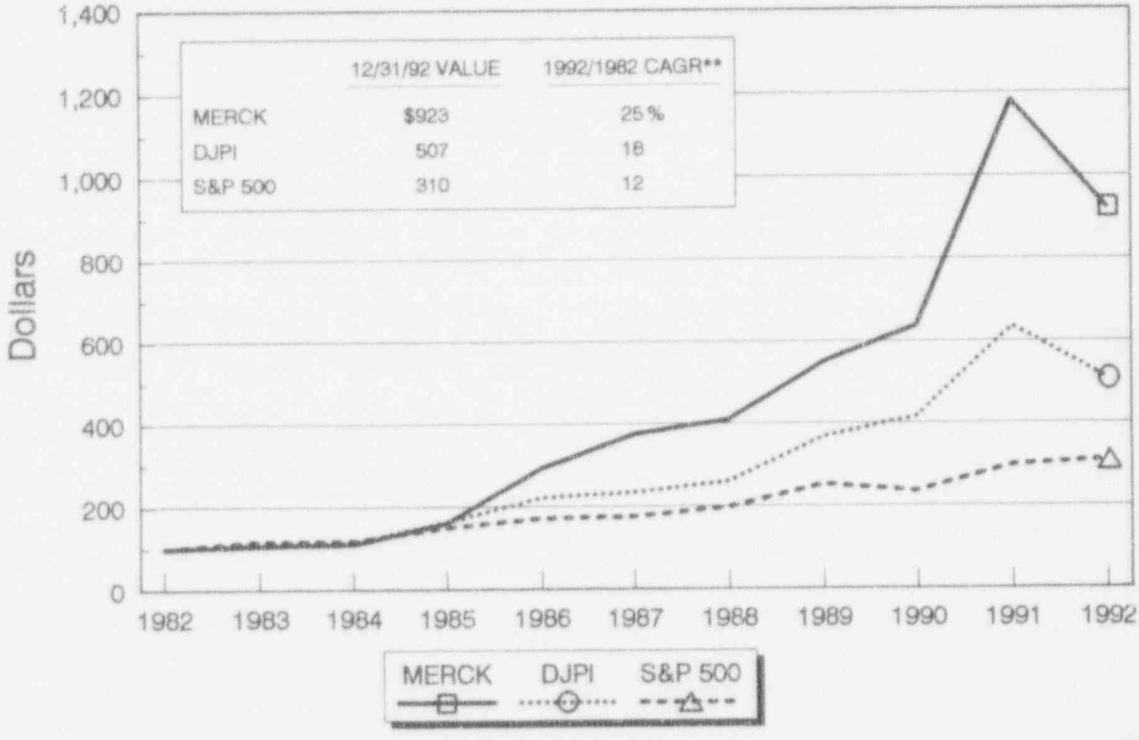
** Compound Annual Growth Rate.

Ten-Year Stock Price Appreciation

The following graph compares the cumulative stock price appreciation (not including dividends) of the Company's Common Stock with the cumulative stock price appreciation (not including dividends) of the S&P 500 Index and the DJPI for the ten years ending December 31, 1992. The Company has presented ten-year data to provide a longer time perspective in line with its primary business of discovering, developing, producing and marketing pharmaceutical products. Stock price appreciation, rather than total return, is shown below because DJPI dividend data is not available for the five years ended December 31, 1987.

Comparison of Ten-Year Cumulative Changes in Stock Price*

Merck & Co., Inc., Dow Jones Pharmaceutical Index and S&P 500 Index



* Assumes that the value of the investment in Merck Common Stock and each index was $100 on December 31, 1982. This graph does not include dividends.

** Compound Annual Growth Rate.

2. RATIFICATION OF APPOINTMENT OF INDEPENDENT PUBLIC ACCOUNTANTS

The Board of Directors, upon recommendation of its Audit Committee, composed of non-management members of the Board, has appointed Arthur Andersen & Co. as independent public accountants of the Company with respect to its operations for the year 1993, subject to ratification by the holders of Common Stock of the Company. In taking this action, the members of the Board and the Audit Committee considered carefully Arthur Andersen's performance for the Company in that capacity since its original retention in 1971, its independence with respect to the services to be performed, and its general reputation for adherence to professional auditing standards. Representatives of the firm will be available at the Annual Meeting with the opportunity to make a statement if they desire to do so and to answer appropriate questions that may be asked by stockholders.

There will be presented at the Annual Meeting a proposal for the ratification of this appointment, which the Board of Directors believes is advisable and in the best interests of the stockholders. If the appointment of Arthur Andersen & Co. is not ratified, the matter of the appointment of independent public accountants will be considered by the Board of Directors.

The Board of Directors recommends a vote FOR this proposal.

3. STOCKHOLDER PROPOSAL CONCERNING EXECUTIVE COMPENSATION

Ms. Virginia F. Gruber, P.O. Box 295, Millington, NJ 07946, owner of 1,494 registered shares of Common Stock of the Company, has given notice that she intends to present for action at the Annual Meeting the following resolution:

"RESOLVED: That the shareholders of Merck recommend that the Board of Directors take the necessary steps to see that not any Merck executive (or other employee) receive compensation (summation of salary, bonuses, receipts from stock options, etc.) amounting to more than 25 times that of the average Merck employee.

"REASONS: Health care costs have sky-rocketed over the past decade. Many people in our country cannot afford basic health care. The cost of drugs is part of the problem. Merck owes its employees fair compensation for their efforts, and it owes its investors an honest attempt to make a profit, but it also owes the consumers of health care (all of us) the lowest-priced quality drugs it can produce. Gains made from reducing operating costs by lowering executive compensation packages to reasonable levels can help achieve this goal.

"What are reasonable levels? Compensating an executive (even the CEO) 25 times that of the average employee is more than fair — it is generous. Although the executive's job of managing Merck's business affairs is certainly important to Merck's success, the true backbone of Merck's business is its scientific innovation. Merck's many scientists and their support staffs must first invent (or discover) and then steer the drug through the complex regulatory process before the drug can be marketed and the first dollar made. These scientists as well as the many other employees who are instrumental in the manufacturing and marketing of Merck's products are more than important — they are *essential* to Merck's success.

"Lowering executive compensation rates to reasonable levels would not only reduce Merck's operating costs, it would also provide new motivation for all Merck employees. While it has been argued that high-paying incentive plans are needed to retain 'key' employees, modern psychology suggest that once basic needs are met, people are motivated not by money but by the opportunity to make a meaningful contribution and by the recognition of those achievements. The globally successful Japanese and German companies do this by considering and treating every employee as important. One of the ways they achieve this is by keeping differences of compensation and levels between executives and other employees comparatively small.

"Health care costs are too high and global competition to fierce to let this opportunity of helping Merck become more equitable and efficient go by. Vote **FOR** this resolution. You will not only be helping Merck, you will be helping our country in its struggle to contain health care costs."

Board of Directors' Statement in Opposition to the Resolution

The Board of Directors believes that a cap on executive compensation could prevent the Company from attracting, retaining and motivating the extraordinarily talented people essential to manage the Company for maximum stockholder value. The companies with which the Company competes are not subject to a pay cap on executive compensation. A pay cap would eliminate a crucial element of flexibility in setting executive compensation and would place the Company at a severe competitive disadvantage. Accordingly, the Board believes that this proposal is not in the best interest of the Company or its stockholders.

The Company's compensation policies are approved by the Compensation and Benefits Committee of the Board, which is comprised entirely of independent outside directors. Company executive compensation is highly dependent on the Company's performance and the performance of its stock.

The compensation of the Company's executives is within a range of comparable companies. The Company periodically retains outside compensation and benefits consultants to assure that its compensation programs are not inconsistent with those of other leading industrial and healthcare companies.

The Board of Directors recommends a vote AGAINST this proposal.

4. STOCKHOLDER PROPOSAL CONCERNING CONFIDENTIAL VOTING

The Carpenters Pension Fund of Philadelphia and Vicinity, Carpenters' Building, 1803 Spring Garden Street, Philadelphia, PA 19130, owner of 21,300 shares of Common Stock of the Company, has given notice that it intends to present for action at the Annual Meeting the following resolution:

"BE IT RESOLVED: That the stockholders of Merck & Co., Inc. ("Company") recommend that our board of directors take the necessary steps to adopt and implement a policy of confidential voting at all meetings of its stockholders which includes the following provisions:

1. that the voting of all proxies, consents and authorizations be secret, and that no such document shall be available for examination nor shall the vote or identity of any shareholder be disclosed except to the extent necessary to meet the legal requirements, if any, of the company's state of incorporation; and

2. that the receipt, certification and tabulation of such votes shall be performed by independent election inspectors.

"Supporting Statement

"It is the proponents' belief that it is vitally important that a system of confidential proxy voting be established at the Company. Confidential balloting is a basic tenet of our political electorial process ensuring its integrity. The integrity of corporate board elections should also be protected against potential abuses given the importance of corporate policies and practices to corporate owners and our national economy.

"The implementation of a confidential voting system would enhance shareholder rights in several ways. First, in protecting the confidentiality of the corporate ballot, shareholders would feel free to oppose management nominees and issue positions without fear of retribution. This is especially important for professional money managers whose business relationships can be jeopardized by their voting positions.

"A second important benefit of confidential voting would be to invigorate the corporate governance process at the Company. We believe that shareholder activism would be promoted within the Company. It is our belief that shareholders empowered with a free and protected vote would be more active in the proposing of corporate policy resolutions and alternate board candidates.

"Finally, it is our belief that the enhancement of the proxy voting process would change the system where too often shareholders vote 'with their feet,' not with their ballots. This change would help to develop a long-term investment perspective where corporate assets could be deployed, and used in a more effective and efficient manner.

"Confidential voting is gaining popularity. By 1992, 74 major U.S. publicly-traded companies had adopted confidential proxy voting procedures for corporate elections, up from 53 in 1991. The list of Fortune 500 companies with confidential voting includes AT&T, U.S. West, American Express, American Brands, Coca Cola, CitiCorp, Gillete, Exxon, Sara Lee, J.P. Morgan, Bear

Stearns, General Electric, General Mills, General Motors, Colgate-Palmolive, American Home Products, Honeywell, Avon Products, 3M, DuPont, Boeing, Lockheed, Rockwell International, Amoco, Mobil, Eastman Kodak, IBM, Xerox and many others. It's time for our Company to do the same.

"For the reasons outlined above, we urge you to VOTE FOR THIS PROPOSAL."

Board of Directors' Statement in Opposition to the Resolution

The Board of Directors believes that a confidential voting policy would limit the effectiveness of the proxy solicitation process as a communication tool for both management and stockholders without significantly adding to the confidentiality already available to stockholders through the use of nominee ownership. The Board also believes that, although the Company has used Corporation Trust Company to tabulate votes and serve as independent inspectors of election for annual meetings of stockholders for a number of years, such use is not necessary to assure the integrity of its proxy solicitation system.

A similar proposal on confidential voting was rejected by the holders of 77% of the shares voting at the Company's 1989 Annual Meeting.

The adoption of a confidential voting policy would have significant negative effects:

- A confidential voting policy would greatly hinder the Company's ability to contact stockholders during the proxy season. When an issue critical to the success of the Company is involved, the Board may need the ability to be informed of stockholder decisions so that they may argue effectively for a position that they believe is in the best interest of the Company and its stockholders. Especially in the case of a contested election, the party conducting the solicitation may not be acting in the best interest of all stockholders, though such party would have the ability to communicate with other stockholders with few restrictions. In addition, the Company may need to contact those stockholders who have not returned their proxies to request their participation to assure a quorum, or to contact those whose proxy cards contain errors or deficiencies so that such stockholders may correct their proxies and cast their votes as intended.

- A confidential voting policy would effectively eliminate a convenient, cost-efficient method for stockholders to communicate with the Company. Many stockholders use the proxy card with its postage-prepaid return envelope to communicate with the Company on various matters of concern to them, such as changes of address, missing dividend checks or lost or stolen stock certificates, as well as matters relating to the Company's business. These stockholders, at least, intend and expect the Company to be able to identify them from the proxy card. The Company appreciates all opportunities to communicate with its stockholders.

The Board believes that the Company's existing proxy solicitation system protects the interests of both those stockholders who desire anonymity and those who wish to be identifiable. Under the Company's existing proxy solicitation system, stockholders who wish to keep their votes confidential can register their shares in the name of a nominee, such as a bank, stockbroker or other fiduciary. Since nominee holders do not disclose the names of beneficial owners without permission, confidentiality is assured. Thus, stockholders can choose whether their votes will be identifiable, rather than having this decision imposed on them by a confidential voting policy.

Employees who own shares through various Company benefit plans cannot register these shares through nominees. However, the shares held in these plans are voted by the trustee of such plans who may not disclose to the Company how any benefit plan participant has voted. Employees can place non-plan shares in the name of a nominee if they desire confidentiality as to those shares as well.

The Board of Directors recommends a vote AGAINST this proposal.

5. STOCKHOLDER PROPOSAL CONCERNING ANNUAL ELECTION OF DIRECTORS

Mrs. Evelyn Y. Davis, Watergate Office Building, 2600 Virginia Avenue N.W., Suite 215, Washington, D.C. 20037, owner of 225 shares of Common Stock of the Company, has given notice that she intends to present for action at the Annual Meeting the following resolution:

"RESOLVED: That the shareholders of Merck recommend that the Board of Directors take the necessary steps to reinstate the election of directors ANNUALLY, instead of the stagger system which was recently adopted.

"REASONS: Until recently, directors of Merck were elected annually by all shareholders.

"The great majority of New York Stock Exchange listed corporations elect all their directors each year.

"This insures that ALL directors will be more accountable to ALL shareholders each year and to a certain extent prevents the self-perpetuation of the Board.

"Last year the owners of 77,775,700 shares, representing approximately 29.85% of shares voting, voted FOR this proposal.

"If you AGREE, please mark your proxy FOR this resolution."

Board of Directors' Statement in Opposition to the Resolution

This proposal has been submitted by the same stockholder at the last seven Annual Meetings of Stockholders and has been overwhelmingly defeated on each occasion. The Board of Directors continues to believe that this proposal is not in the best interest of the Company or its stockholders.

The Company's current system for electing directors, with the Board divided into three classes of directors serving staggered three-year terms, was adopted by the Company's stockholders in 1985 by an affirmative vote of 79%.

The Board believes that the staggered system of electing directors provides important benefits to the Company:

- The staggered system helps assure continuity and stability of the Company's business strategies and policies. Since at least two stockholders meetings will generally be required to effect a change in control of the Board, a majority of directors at any given time will have prior experience as directors of the Company. This is particularly important to a research-based organization such as the Company, where product development often requires many years.

- In the event of any unfriendly or unsolicited proposal to take over or restructure the Company, the staggered system would permit the Company time to negotiate with the sponsor, to consider alternative proposals and to assure that stockholder value is maximized.

As part of the 1985 amendment to the Company's Restated Certificate of Incorporation (the "Charter") to provide for the current staggered system of electing directors, the stockholders also approved a requirement that any change in the provisions of the amendment be approved by the holders of shares of stock of the Company representing at least 80% of the votes entitled to be cast generally for the election of directors. This stockholder resolution does not propose an amendment to the Charter but, instead, seeks to have the Board take any necessary steps to return to annual election of directors. Thus, the proposal's approval by stockholders would not itself re-establish annual election of directors but would require the Board to submit a Charter amendment for action by stockholders at the 1994 Annual Meeting and an 80% stockholder vote would be necessary for approval.

The Board of Directors recommends a vote AGAINST this proposal.

FILINGS UNDER SECTION 16(a)

Section 16(a) of the Securities Exchange Act of 1934 requires the Company's officers and directors, and persons who own more than ten percent of a registered class of the Company's equity securities, to file reports of ownership and changes in ownership of such securities with the Securities and Exchange Commission and the New York Stock Exchange. Officers, directors and greater than ten-percent beneficial owners are required by applicable regulations to furnish the Company with copies of all Section 16(a) forms they file. The Company is not aware of any beneficial owner of more than ten percent of its Common Stock.

Based solely upon a review of the copies of the forms furnished to the Company, or written repres[illegible] from certain reporting persons that no Forms 5 were required, the Company believes that du[illegible] 1992 fiscal year all filing requirements applicable to its officers and directors were complied w[illegible] except for (i) the late filings in June of 1992 by H. Brewster Atwater, Jr. and Charles E. Exley, Jr. of Forms 4, Statement of Changes in Beneficial Ownership of Securities, with respect to derivative securities acquired in their Directors' Deferred Compensation Account (Phantom Common Stock Account) during 1991 and early 1992, which filings became necessary as a result of a No-Action Letter issued in May 1992 and (ii) the late filing in July of 1992 by Carolyne K. Davis of a Form 4, Statement of Changes in [illegible]cial Ownership of Securities, with respect to her purchase in May 1992 of 30 shares of Commo[illegible]s custodian for a grandchild.

DEADLINE FOR STOCKHOLDER PROPOSALS FOR 1994

Stockholder proposals to be presented at the 1994 Annual Meeting must be received by the Company on or before November 22, 1993 for inclusion in the proxy statement and form of proxy relating to that meeting.

OTHER MATTERS

The Board of Directors is not aware of any other matters to come before the meeting. However, if any other matters properly come before the meeting, it is the intention of the persons named in the enclosed form of proxy to vote said proxy in accordance with their judgment in such matters.

MERCK & CO., INC.

March 22, 1993

FILINGS UNDER SECTION 16(a)

Section 16(a) of the Securities Exchange Act of 1934 requires the Company's officers and directors, and persons who own more than ten percent of a registered class of the Company's equity securities, to file reports of ownership and changes in ownership of such securities with the Securities and Exchange Commission and the New York Stock Exchange. Officers, directors and greater than ten-percent beneficial owners are required by applicable regulations to furnish the Company with copies of all Section 16(a) forms they file. The Company is not aware of any beneficial owner of more than ten percent of its Common Stock.

Based solely upon a review of the copies of the forms furnished to the Company, or written representations from certain reporting persons that no Forms 5 were required, the Company believes that during the 1992 fiscal year all filing requirements applicable to its officers and directors were complied with except for (i) the late filings in June of 1992 by H. Brewster Atwater, Jr. and Charles E. Exley, Jr. of Forms 4, Statement of Changes in Beneficial Ownership of Securities, with respect to derivative securities acquired in their Directors' Deferred Compensation Account (Phantom Common Stock Account) during 1991 and early 1992, which filings became necessary as a result of a No-Action Letter issued in May 1992 and (ii) the late filing in July of 1992 by Carolyne K. Davis of a Form 4, Statement of Changes in Beneficial Ownership of Securities, with respect to her purchase in May 1992 of 30 shares of Common Stock as custodian for a grandchild.

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Stockholder proposals to be presented at the 1994 Annual Meeting must be received by the Company on or before November 22, 1993 for inclusion in the proxy statement and form of proxy relating to that meeting.

OTHER MATTERS

The Board of Directors is not aware of any other matters to come before the meeting. However, if any other matters properly come before the meeting, it is the intention of the persons named in the enclosed form of proxy to vote said proxy in accordance with their judgment in such matters.

MERCK & CO., INC.

March 22, 1993

As filed with the Securities and Exchange Commission on March 25, 1993

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D. C. 20549

FORM 10-K

(MARK ONE)

☒ **Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934** *[Fee Required]*
For the Fiscal Year Ended December 31, 1992

or

☐ **Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934** *[No Fee Required]*
For the transition period from _____ to _____

Commission File No. 1-3305

MERCK & CO., INC.

P.O. Box 100
Whitehouse Station, N. J. 08889-0100
(908) 423-1000

Incorporated in New Jersey	*I.R.S. Employer Identification No. 22-1109110*

Securities Registered pursuant to Section 12(b) of the Act:

Title of Each Class	*Name of Each Exchange on which Registered*
Common Stock (no par value)	New York and Philadelphia Stock Exchanges

Number of shares of Common Stock (no par value) outstanding as of February 26, 1993: 1,141,784,798.

Aggregate market value of Common Stock (no par value) held by non-affiliates on December 31, 1992 based on closing price on February 26, 1993: $43,794,000,000.

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** √. **No** .....

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

Documents Incorporated by Reference:

Document	*Part of Form 10-K*
Annual Report to stockholders for the fiscal year ended December 31, 1992	Parts I and II
Proxy Statement for the Annual Meeting of Stockholders to be held April 27, 1993	Part III

PART I

Item 1. Business.

Merck & Co., Inc. is a worldwide organization engaged primarily in the business of discovering, developing, producing and marketing products and services for the maintenance or restoration of health. The Company's business is divided into two industry segments: Human and Animal Health Products and Specialty Chemical Products. Financial information about industry segments of the Company's business is incorporated by reference to page 45 of the Company's 1992 Annual Report to stockholders.

Human and Animal Health Products Segment

Human and animal health products include therapeutic and preventive agents for the treatment of human disorders, which are generally sold by prescription, and for the control and alleviation of disease in livestock, small animals and poultry. Human and animal health products also include poultry breeding stock and crop protection products. This segment contributed $9,067.6 million, $8,019.5 million and $7,120.5 million to Company sales in 1992, 1991 and 1990, respectively.

Human health products include cardiovascular products, of which *Vasotec* (enalapril maleate), *Mevacor* (lovastatin), *Zocor* (simvastatin), *Prinivil* (lisinopril), *Vaseretic* (enalapril maleate-hydrochlorothiazide), *Moduretic* (amiloride HCl-hydrochlorothiazide) and *Aldomet* (methyldopa) are the largest-selling; anti-ulcerants, of which *Pepcid* (famotidine) and *Prilosec* (omeprazole) are the largest-selling; antibiotics, of which *Primaxin* (imipenem-cilastatin sodium), *Noroxin* (norfloxacin) and *Mefoxin* (cefoxitin sodium) are the largest-selling; vaccines/biologicals, of which *Recombivax HB* (hepatitis B vaccine recombinant) and *M-M-R II* (measles, mumps and rubella virus vaccine live) are the largest selling; ophthalmologicals, of which *Timoptic* (timolol maleate) is the largest-selling; anti-inflammatory/analgesic products, of which *Indocin* (indomethacin), *Dolobid* (diflunisal) and *Clinoril* (sulindac) are the largest-selling; *Proscar* (finasteride), a treatment for symptomatic benign prostate enlargement, which was introduced in the United States late in the second quarter of 1992; and other human health products which include antiparkinsonism products, psychotherapeutics and a muscle relaxant.

Animal health/crop protection products include antiparasitics, of which *Ivomec* (ivermectin) for the control of internal and external parasites in livestock and *Heartgard-30* (ivermectin) for the prevention of canine heartworm disease are the largest-selling; crop protection products, of which abamectin-based miticides/insecticides are the largest-selling; coccidiostats for the treatment of poultry disease; and poultry breeding stock.

The following table shows the sales of various classes of the Company's human and animal health products:

($ in millions)	1992	1991	1990
Cardiovasculars	$4,482.0	$3,804.2	$3,140.1
Anti-ulcerants	1,043.9	820.6	599.8
Antibiotics	942.2	917.7	856.1
Vaccines/biologicals	485.3	375.1	353.3
Ophthalmologicals	457.2	425.2	403.5
Anti-inflammatories/analgesics	430.5	500.4	594.4
Other human health	373.4	381.9	417.9
Animal health/crop protection	853.1	794.4	755.4
Total	$9,067.6	$8,019.5	$7,120.5

A new human health product approved for marketing in the United States by the Federal Food and Drug Administration ("FDA") in 1992 is *Proscar*, the first of a new class of prescription drugs called 5-alpha reductase inhibitors, to treat symptomatic benign prostate enlargement. Also in 1992, *Vasotec* received a broadened heart failure indication from the FDA. According to the revised prescribing information, in

Exhibit 11

MERCK & CO., INC. AND SUBSIDIARIES

Computation of Earnings Per Common Share (a)

(In millions except per share amounts)

	1992	1991	1990
Net Income:			
Income Before Cumulative Effect of Accounting Changes	$2,446.6	$2,121.7	$1,781.2
Cumulative Effect of Accounting Changes	462.4	-	-
Net Income	$1,984.2	$2,121.7	$1,781.2
Earnings Per Share (As Reported):			
Weighted Average Shares Outstanding	1,153.5	1,159.9	1,172.1
Earnings Per Share:			
Before Cumulative Effect of Accounting Changes	$2.12	$1.83	$1.52
Cumulative Effect of Accounting Changes	(.40)	-	-
Net Income	$1.72	$1.83	$1.52
Weighted Average Shares and Share Equivalents Outstanding:			
Weighted Average Shares Outstanding	1,153.5	1,159.9	1,172.1
Common Share Equivalents Issuable Under Stock Option Plans	13.4	18.3	9.4
Common Shares Issuable Under Executive Incentive Plans	2.2	2.4	2.5
Weighted Average Shares and Share Equivalents Outstanding	1,169.1	1,180.6	1,184.0
Fully Diluted Earnings Per Share: (b)			
Before Cumulative Effect of Accounting Changes	$2.09	$1.80	$1.50
Cumulative Effect of Accounting Changes	(.39)	-	-
Net Income	$1.70	$1.80	$1.50

(a) All per share amounts for the current and prior periods presented in this exhibit reflect the three-for-one split of the Company's common stock effective May 6, 1992.

(b) This calculation is submitted in accordance with the regulations of the Securities and Exchange Commission although not required by APB Opinion No. 15 because it results in dilution of less than 3%.

Exhibit 12

MERCK & CO., INC. AND SUBSIDIARIES

Computation of Ratios of Earnings to Fixed Charges

(In millions except ratio data)

	Years Ended December 31					
	1992	1991	1990	1989	1988	1987
Income Before Taxes and Cumulative Effect of Accounting Changes	$3,563.6	$3,166.7	$2,698.8	$2,283.0	$1,871.0	$1,405.2
Add:						
One-third of Rents	34.0	31.1	26.5	20.0	19.3	16.7
Interest Expense (Net)	23.6	26.0	51.9	45.5	71.0	55.1
Income as Adjusted	$3,621.2	$3,223.8	$2,777.2	$2,348.5	$1,961.3	$1,477.0
Fixed Charges						
One-third of Rents	$ 34.0	$ 31.1	$ 26.5	$ 20.0	$ 19.3	$ 16.7
Interest Expense	72.7	68.7	69.8	53.2	76.5	56.4
Fixed Charges	$ 106.7	$ 99.8	$ 96.3	$ 73.2	$ 95.8	$ 73.1
Ratio of Earnings to Fixed Charges	34	32	29	32	20	20

For purposes of computing these ratios, "earnings" consist of income before income taxes, one-third of rents (deemed by the Company to be representative of the interest factor), and interest expense, net of amounts capitalized. "Fixed charges" consist of one-third of rents and interest expense as reported in the Company's consolidated financial statements (includes both amounts expensed and amounts capitalized).

EXHIBIT 22

MERCK & CO., INC. SUBSIDIARIES
AS OF DECEMBER 31, 1992

Each of the subsidiaries below does business under the name in which listed. A subsidiary of a subsidiary is indicated by indentation under the immediate parent. All voting securities of the subsidiaries named are owned directly or indirectly by the Company, except where otherwise indicated. Certain other subsidiaries, principally overseas companies that are less than wholly owned, have been omitted since, considered in the aggregate as a single subsidiary, they would not constitute a significant subsidiary as of December 31, 1992.

Name	Country or State of Incorporation
Calgon Canada, Inc.	Canada
International Indemnity Limited	Bermuda
Kelco Specialty Colloids, Limited	Canada
Laboratorios Prosalud S.A.	Peru
Merck and Company, Incorporated	Delaware
INTERx Research Corporation	Delaware
Merck Foreign Sales Corporation	Guam
Merck Foreign Sales Corporation Ltd.	Bermuda
Merck Holdings, Inc.	Delaware
Calgon Corporation	Delaware
Calgon Interamerican Corporation	Delaware
Calgon de Mexico, S.A. de C.V.	Mexico
Chemviron Speciality Chemicals N.V./S.A.	Belgium
Kelco International S.A.	France
Merck de Puerto Rico, Inc.	Delaware
MSD International Holdings, Inc.	Delaware
Banyu Pharmaceutical Company, Limited*	Japan
A.S.C. Service Co., Ltd.*	Japan
Nippon Merck-Banyu Co., Limited*	Japan
Compagnie Chimique Merck Sharp & Dohme S.A.	France
Ferlux Labo S.A.	France
Frosst Laboratories, Inc.	Delaware
Frosst Portuguesa - Produtos Farmaceuticos, Lda.	Portugal
Hubbard Farms, Inc.	Delaware
Hubbard Foods, Inc.	New Hampshire
Hubbard France S.A.R.L.	France
Hubbard Laboratories, Inc.	Delaware
Kelco Company	Delaware
Monterey Kelp Corporation	California
Kelco Oil Field Group, Inc.	Delaware

*49.13% publicly held

Merck Holdings, Inc. (continued)	
Kelco Specialty Colloids (S) Pte. Ltd.	Singapore
Laboratoires Merck Sharp & Dohme-Chibret S.A.	France
Chibret International	France
Chibret Pharmazeutische GmbH	Germany
Merck Frosst Canada Inc.	Canada
General Trade Co., S.A.	Peru
Merck Sharp & Dohme B.V.	Netherlands
Abello Farmacia, S.L.	Spain
Hubbard Europa B.V.	Netherlands
Hubbard Belgium International N.V.	Belgium
Hubbard Deutschland GmbH	Germany
Hubbard Italia SRL	Italy
Hubbard Nederland B.V.	Netherlands
Hubbard Poultry U.K. Limited	Great Britain
Merck Sharp & Dohme GmbH	Austria
Merck Sharp & Dohme Chibret AG	Switzerland
Merck Sharp & Dohme Idea, Inc.	Switzerland
Merck Sharp & Dohme de Venezuela C.A.	Venezuela
Merck Sharp & Dohme Holdings de Mexico, S.A. de C.V.	Mexico
Laboratorios Prosalud S. de R.L. de C.V.	Mexico
Merck Sharp & Dohme (Holdings) Limited	Great Britain
British United Turkeys Limited	Great Britain
Turkey Research & Development Limited	Great Britain
Charles E. Frosst (U.K.) Limited	Great Britain
C V Laboratories Limited	Great Britain
Kelco International Limited	Great Britain
Alginate Industries (Ireland) Limited	Ireland
Alginate Industries Limited	Great Britain
Alginate Industries (Scotland) Limited	Great Britain
Kelco International GmbH	Germany
Kelco International Pension Fund Trust Ltd.	Great Britain
Chemviron Speciality Chemicals Limited	Great Britain
Kelco Biospecialties Limited	Great Britain
Merck Sharp & Dohme Limited	Great Britain
Thomas Morson & Son Limited	Great Britain
Merck Sharp & Dohme (I.A.) Corp.	Delaware
Merck Sharp & Dohme (Argentina) Inc.	Delaware
Merck Sharp & Dohme Industrial e Exportadora Limitada	Brazil
Merck Sharp & Dohme Farmaceutica e Veterinaria Ltda.	Brazil
Merck Sharp & Dohme (International) Limited	Bermuda
Merck Sharp & Dohme (Asia) Limited	Hong Kong
Merck Sharp & Dohme (China) Limited	Hong Kong
Merck Sharp & Dohme S.A.	France
Merck Sharp & Dohme (Italia) S.p.A.	Italy
Merck Sharp & Dohme Quimica de Puerto Rico, Inc.	Delaware
Merck Sharp & Dohme (Sweden) A.B.	Sweden
Merck Sharp Dohme - Lebanon S.A.L.	Lebanon
Merck Sharp ve Dohme Ilaclari A.S.	Turkey
MSD CHIMIE S.A.	France
MSD Ireland (Holdings) Ltd.	Bermuda
Fregenal Holdings, S.A.	Panama
Frosst Iberica, S.A.	Spain
Laboratorios Quimico-Farmaceuticos Chibret, Ltda.	Portugal
Merck Sharp & Dohme de Espana, S.A.	Spain
Merck Sharp & Dohme (Ireland)	Bermuda
MSD Overseas Finance, N.V.	Neth. Antil.
Fabrica de Productos Quim. y Farm. ABELLO, S.A.	Spain
MSD Finance, B.V.	Netherlands
Neopharmed S.p.A.	Italy

Merck Holdings, Inc. (continued)	
MSD Lakemedel (Scandinavia) A.B.	Sweden
MSD (Norge) A/S	Norway
MSD Sharp & Dohme GmbH	Germany
Dieckmann Arzneimittel GmbH	Germany
Frosst Pharma GmbH	Germany
MSD Chibropharm GmbH	Germany
MSD Unterstutzungskasse GmbH	Germany
Prosalud Peruana S.A.	Peru
Suomen MSD Oy	Finland
Merck Sharp & Dohme A/S	Denmark
Merck Sharp & Dohme (Australia) Proprietary Limited	Australia
Merck Sharp & Dohme Belgium S.A.	Belgium
Merck Sharp & Dohme (Europe) Inc.	Delaware
Merck Sharp & Dohme (Greece) Inc.	Delaware
Merck Sharp & Dohme Industria Quimica e Veterinaria Limitada	Brazil
Merck Sharp & Dohme, Limitada	Portugal
Merck Sharp & Dohme (New Zealand) Limited	New Zealand
Charles E. Frosst (New Zealand) Limited	New Zealand
Merck Sharp & Dohme Overseas Finance N.V.	Neth. Antil.
Merck Sharp & Dohme (Panama) S.A.	Panama
Merck Sharp & Dohme (Philippines) Inc.	Philippines
Merck Sharp & Dohme Scientific and Management Corp., Inc.	Delaware
Merck Sharp & Dohme (Zimbabwe) (Private) Limited	Zimbabwe
MSD AGVET AG	Switzerland
MSD (Japan) Co., Limited	Japan

SUBSIDIARIES OMITTED FROM
FORM 10-K EXHIBIT 22 - 1992

Name	Country or State of Incorporation
AMRAD Pharmaceuticals Pty. Limited	Australia
Arramara Teoranta	Ireland
Astra/Merck, Inc.	Delaware
Istituto Di Ricerche Di Biologia Molecolare SpA	Italy
Kelp Industries Pty. Limited	Tasmania
Kiinteisto Oy Irmelinpesa	Finland
Kronans Droghandel AB	Sweden
Maquifar S. de R.L. de C.V.	Mexico
Merck Sharp & Dohme of Pakistan Limited	Pakistan
Prodome Quimica e Farmaceutica Ltda.	Brazil

symptomatic congestive heart failure patients with left ventricular dysfunction, *Vasotec* improves symptoms, increases survival and decreases the frequency of hospitalization.

In July 1992, the Company and Pasteur Mérieux Sérums & Vaccins ("Pasteur Mérieux"), which is part of the Rhone-Poulenc group, signed a letter of intent to form a joint venture to promote human vaccines with the Company and develop new combination vaccines for distribution in the European Community ("EC") and the European Free Trade Association. The establishment of this joint venture, which would be equally owned by the Company and Pasteur Mérieux, is subject to execution of definitive agreements and various approvals, including that of the European Commission.

In 1992, through the new Merck Vaccine Division, the Company finalized an agreement with Connaught Laboratories, Inc. ("Connaught"), an affiliate of Pasteur Mérieux, to collaborate on the development, manufacture and marketing of combination pediatric vaccines. The research and marketing collaboration will enable the companies to pool their resources to expedite the development of vaccines combining several different antigens to protect children against a variety of diseases, including *Haemophilus influenzae* type b, hepatitis B, diphtheria, tetanus, pertussis and poliomyelitis. In addition, the Company and Connaught have agreed to promote a number of each other's vaccine products.

In 1990, the Company and E. I. du Pont de Nemours and Company ("Du Pont") entered into a joint venture agreement to form a worldwide pharmaceutical company for the research, marketing, manufacturing and sale of pharmaceutical and imaging agent products. Du Pont contributed its entire worldwide pharmaceutical and radiopharmaceutical imaging agents businesses to the joint venture and is providing administrative services. The Company's contribution includes rights to *Sinemet* (carbidopa-levodopa), *Sinemet CR* (sustained-release formulation), *Moduretic*, *Prinivil* and *Prinzide* (lisinopril and hydrochlorothiazide) in the United Kingdom, France, Germany, Italy and Spain, research and development expertise, development funds and cash. The new venture began operations on January 1, 1991. In September 1992, the joint venture began co-promotion in the United States of the Company's prescription medicine, *Vasotec*.

In January 1993, the Company and Johnson & Johnson finalized an agreement to extend into Europe the U.S. joint venture that was formed in 1989. This new European extension is intended to market and sell over-the-counter pharmaceutical products in Europe. In October 1991, as a first step toward the establishment of the European business, the two companies acquired certain assets of Woelm Pharma G.m.b.H., a leading German self-medication business owned by Rhone-Poulenc Rorer, including a topical cough/cold product, two laxatives and a line of vitamins. In January 1993, the Company submitted a New Drug Application ("NDA") to the FDA for an over-the-counter form of the Company's ulcer medication *Pepcid*, to be marketed by the joint venture.

In 1982, the Company entered into an agreement with AB Astra ("Astra") to develop and market Astra products in the United States. Currently, the Company markets three Astra products, *Prilosec*, *Plendil* (felodipine) and *Tonocard* (tocainide hydrochloride), in exchange for a royalty. The Company is also developing another Astra product, *Roxiam* (remoxipride), for which an NDA was submitted to the FDA in January 1993. In the latter part of 1993, if the Company's total sales of Astra products reach a certain level, a separate entity will be formed for operations related to Astra products. Astra would have the right to acquire a 50% share of the new entity, at which time the Company's royalty obligation would cease. Other than the acquisition price, the contribution of this business to the Company's operations is not expected to have a significant impact on financial results in the near term.

In 1992, the Company entered into agreements to (i) establish a new manufacturing, sales and promotion entity in Turkey; (ii) restructure Merck Human Health Division operations in Taiwan; (iii) acquire 100% interest in its Mexican subsidiary, Laboratorios Prosalud, which engages in the manufacture, marketing, promotion and sale of the Company's human pharmaceutical, animal health and crop protection products in Mexico; and (iv) develop and market with CSL Limited of Australia combination pediatric vaccines in Australia, New Zealand and major markets in the Far East.

Competition — The markets in which this segment's business is conducted are highly competitive. Such competition involves an intensive search for technological innovations and the ability to market these

innovations effectively. With its long-standing emphasis on research and development, the Company is well prepared to compete in the search for technological innovations. Additional resources to meet competition include quality control, flexibility to meet exact customer specifications, an efficient distribution system and a strong technical information service. The Company is active in acquiring and marketing products through joint ventures and licenses and has been expanding its sales and marketing efforts to further address changing industry conditions. However, the introduction of new products and processes by competitors may result in price reductions and product replacements, even for products protected by patents. For example, the number of compounds available to treat each disease entity has increased during the past several years and has resulted in slowing the growth in sales of certain of the Company's products. In addition, particularly in the area of human pharmaceutical products, legislation enacted in all states allows, encourages or, in a few instances, in the absence of specific instructions from the prescribing physician, mandates the use of "generic" products (those containing the same active chemical as an innovator's product) rather than "brand-name" products. Governmental and other pressures toward the dispensing of generic products have reduced significantly the sales of certain of the Company's products no longer protected by patents, such as *Clinoril* and *Aldomet*, and slowed the growth of certain other products. In 1992, the Company formed West Point Pharma to market the generic form of its product *Dolobid*. See also the description of the effect upon competition of the Drug Price Competition and Patent Term Restoration Act of 1984 ("Patent Term Restoration Act") on page 5. It is generally the Company's position not to raise prices of its pharmaceutical products in the United States, on a weighted average basis, any faster than our projection of the general rate of inflation as measured by the Consumer Price Index, assuming stable economic conditions and government policies that continue to foster a climate conducive to innovation.

Distribution — Human health products are sold primarily to drug wholesalers and retailers, hospitals, clinics, governmental agencies, managed health-care providers such as health maintenance organizations and other institutions. Customers for animal health/crop protection products include veterinarians, distributors, wholesalers, retailers, feed manufacturers, veterinary suppliers and laboratories. Marketing support is provided by professional representatives who call on physicians, hospitals, veterinarians and others throughout the world. This promotional activity is supplemented by direct mail and journal advertising.

Raw Materials — Raw materials and supplies are normally available in quantities adequate to meet the needs of this segment.

Government Regulation and Investigation — The pharmaceutical industry is subject to global regulation by country, state and local agencies. Of particular importance is the FDA in the United States, which administers requirements covering the testing, approval, safety, effectiveness, manufacturing, labeling and marketing of prescription pharmaceuticals. In many cases, the FDA requirements have increased the amount of time and money necessary to develop new products and bring them to market in the United States, although revised regulations are designed to reduce somewhat the time for approval of new products. In 1992, the Prescription Drug User Fee Act was passed, under which the FDA will collect revenues through user fees. The FDA has pledged to devote these revenues to its process for reviewing and approving applications for new drugs, antibiotics and biological products.

Congress and the new Administration under President Clinton are working toward a proposal to expand health-care access and reduce the costs associated therewith. The debate to reform the health-care system is expected to be protracted and intense. Although the Company is positioned to do business in a managed competition environment and respond to evolving market forces, it cannot predict the outcome or effect of legislation resulting from the reform process. In addition, under the U.S. deficit reduction programs currently being discussed by the new Administration, the Company's future effective tax rates could be affected.

For some years the pharmaceutical industry has been under Federal and state oversight with the new drug approval system, drug safety, advertising and promotion, drug purchasing and reimbursement programs and formularies variously under review. The Company believes that it will continue to be able to bring new drugs to market in this regulatory environment. One Federal initiative to contain costs is the prospective payment system, established under the Social Security Amendments of 1983 to hold down the growth of Medicare payments to hospitals, which provides a flat rate for reimbursement to hospitals in advance of the care for patients. The system establishes a number of patient classifications — Diagnosis Related Groups ("DRG's").

A hospital receives the flat rate as full payment for each Medicare patient treated within a given DRG regardless of whether the hospital's actual costs are higher or lower than the flat rate. This system and other cost cutting programs have caused hospitals and other customers of the Company to be more cost-conscious in their treatment programs and to implement cost containment measures, including cost containment for the drugs they administer.

Additionally, Congress and the regulatory agencies have sought to reduce the cost of drugs paid for with Federal funds. In 1990, the Company initiated its Equal Access to Medicines Program ("EAMP") on its single source products, under which it generally offered its "best price" discount to state Medicaid programs that grant open access to the Company's products. The Omnibus Budget Reconciliation Act of 1990 ("OBRA") largely reflects the Company's best price approach. As a result of a national agreement, effective January 1, 1991, signed by the Company with the Secretary of Health and Human Services and administered by the Health Care Financing Administration ("HCFA") pursuant to OBRA, Medicaid received a minimum discount of 12.5% off average manufacturer's price ("AMP") through September 30, 1992, and will receive a minimum discount of 15.7% off AMP rebate thereafter through 1993, on the Company's outpatient drugs reimbursed under Medicaid. In conjunction with implementation of the Federal program under OBRA, the Company's separate EAMP agreements with individual states have been permitted to lapse or have been terminated. Effective in 1992, the terms of the Federal HCFA rebate agreement were generally substituted for the EAMP agreements.

In January 1992, the Company announced that it would provide discounts on its single-source prescription medicines to non-profit health centers for the poor that are Federally funded under sections 329-330 of the Public Health Service Act that qualify for the Company's program and agree to assure access to the Company's drugs. The discounts were largely based on those that the Company provided Medicaid under the Federal "best price" legislation. The discounts were ultimately provided to such centers for single-source, outpatient prescription drugs (not reimbursed by Medicaid) purchased directly from the Company by the centers for their patients.

More recently, the Federal Veterans Health Care Act of 1992 was enacted on November 4, 1992, superceding the Company's Public Health Service initiative and mandating Medicaid rebate-equivalent discounts on covered outpatient drugs purchased by certain Public Health Service entities and "disproportionate share hospitals" (hospitals meeting certain qualification criteria). The Act further mandates minimum discounts of 24% off non-Federal AMP to the Veterans Administration, Federal Supply Schedule and certain other Federal sector purchasers on their pharmaceutical drug purchases.

The Company encounters similar regulatory and legislative issues in most of the foreign countries where it does business. There, too, the primary thrust of governmental inquiry and action is toward determining drug safety and effectiveness, often with mechanisms for controlling the prices of prescription drugs and the profits of prescription drug companies. The EC has adopted directives concerning the classification, labeling, advertising and wholesale distribution of medicinal products for human use. The Company's policies and procedures are already consistent with the substance of these directives; consequently, it is believed that they will not have any material effect on the Company's business.

The Company is subject to the jurisdiction of various regulatory agencies and is, therefore, subject to potential administrative action. Such actions may include product recalls, seizures of products and other civil and criminal sanctions. Under certain circumstances, the Company may deem it advisable to initiate product recalls voluntarily. Although it is difficult to predict the ultimate effect of these activities and legislative, administrative and regulatory requirements and proposals, the Company believes that its development of new and improved products should enable it to compete effectively within this environment.

Patents, Trademarks and Licenses — Patent protection is considered, in the aggregate, to be of material importance in the Company's marketing of human and animal health products in the United States and in most major foreign markets. Patents may cover products *per se*, pharmaceutical formulations, processes for or intermediates useful in the manufacture of products or the uses of products. Protection for individual products

extends for varying periods in accordance with the date of grant and the legal life of patents in the various countries. The protection afforded, which may also vary from country to country, depends upon the type of patent and its scope of coverage.

Patent portfolios developed for products introduced by the Company normally provide marketing exclusivity. This is the case with products in the United States such as *Timoptic, Mefoxin, Timolide* (timolol maleate-hydrochlorothiazide), *Ivomec, Tonocard* in its oral form, *Mevacor, Vasotec, Primaxin, Noroxin, Prilosec* in its oral form, *Vaseretic, PedvaxHIB* (the Company's pediatric vaccine for prevention of *Haemophilus influenzae* type b infections), *Pepcid, Zocor, Plendil, Chibroxin* (norfloxacin) and *Proscar. Prinivil* is subject to a license to a third party and is not marketed exclusively by the Company.

Product patent protection in the United States has expired for the following human and animal pharmaceutical products: *Diuril* (chlorothiazide), *Aldomet, Aldoril* (methyldopa and hydrochlorothiazide), *TBZ* and *Thibenzole* (thiabendazole), *Amprol* (amprolium), *Blocadren* (timolol maleate), *Flexeril* (cyclobenzaprine hydrochloride), *Moduretic, Decadron* (dexamethasone), *Indocin, Clinoril, Dolobid, HydroDiuril* (hydrochlorothiazide), *Triavil* (amitriptyline hydrochloride-perphenazine) and *Sinemet.*

While the expiration of a product patent normally results in the loss of marketing exclusivity for the covered product, commercial benefits may continue to be derived from: (i) later-granted patents on processes and intermediates related to the most economical method of manufacture of the active ingredient of such product; (ii) patents relating to the use of such product; (iii) patents relating to special compositions and formulations; and (iv) marketing exclusivity that may be available under the Patent Term Restoration Act. The effect of product patent expiration also depends upon many other factors such as the nature of the market and the position of the product in it, the growth of the market, the complexities and economics of the process for manufacture of the active ingredient of the product and the requirements of new drug provisions of the Federal Food, Drug and Cosmetic Act or similar laws and regulations in other countries.

The Patent Term Restoration Act in the United States permits restoration of up to five years of the patent term for new products to compensate for patent term lost during the regulatory review process. Additionally, under the Act new chemical entities approved after September 24, 1984 receive a period of five years' exclusivity from the date of NDA approval, during which time an "abbreviated NDA" or "paper NDA" may not be submitted to the FDA. Similarly, in the case of non-new chemical entities approved after September 24, 1984, the applications for which include the new data of clinical investigations conducted or sponsored by the applicant essential to approval, no abbreviated NDA or paper NDA may become effective before three years from NDA approval. However, the Patent Term Restoration Act has also resulted in a general increase in the number and use of generic products marketed in the United States because the regulatory requirements for approval of generic versions of off-patent pioneer drugs have significantly lessened. Additionally, the Patent Term Restoration Act has increased the incentive for abbreviated NDA applicants to challenge the validity of the United States patents claiming pioneer drugs because such a challenge could result in an earlier effective approval date for the generic version of the pioneer drug and a six-month period during which other generic versions of the pioneer drug could not be marketed.

In Japan, a patent term restoration law, which was enacted in 1988, provides, under specific conditions, up to five years of additional patent life for pharmaceuticals. In 1992, the Council of the European Communities published a regulation which created supplementary protection certificates for medicinal products. Thus, as of January 1993, certain medicinal products sold in the EC will be eligible for up to five years of market exclusivity after patent expiration. However, this market exclusivity will expire throughout the EC 15 years after the first product approval in the EC. In February 1993, Canada enacted Bill C91 which significantly modified Canadian patent law by eliminating compulsory licensing of pharmaceutical products after December 20, 1991. Thus, patented pharmaceutical products will have market exclusivity for the full 20-year patent life in Canada.

The Generic Animal Drug and Patent Term Restoration Act, enacted in November 1988, provides for the extension of term of patents claiming new animal drugs approved after enactment. This legislation also

establishes a process by which generic versions of new animal drugs can be approved via an Abbreviated New Animal Drug Application procedure. The provisions of this legislation, in general, are parallel to those found in the Patent Term Restoration Act covering human health products.

Worldwide, all of the Company's important products are sold under trademarks that are considered in the aggregate to be of material importance. Trademark protection continues in some countries as long as used; in other countries, as long as registered. Registration is for fixed terms and can be renewed indefinitely.

Royalties received during 1992 on patent and know-how licenses and other rights amounted to $60.9 million. The Company also paid royalties amounting to $176.6 million in 1992 under patent and know-how licenses it holds.

Specialty Chemical Products Segment

This segment contributed $594.9 million, $583.2 million and $551.0 million to Company sales in 1992, 1991, and 1990, respectively. The Company's specialty chemical products have a wide variety of applications such as use in health care, food processing, oil exploration, paper, textiles, utilities, personal care and water treatment. On February 17, 1993, the Company announced its intention to sell the Calgon Water Management Division of its Specialty Chemical Products segment. The sale of this business is not expected to have a significant impact on the Company's financial position or results of operations.

Competition — The markets in which this segment's business is conducted are highly competitive. An important factor in such competition is the degree of success in the search for technological innovations. The introduction of new products and processes by competitors may render the Company's products obsolete and may result in price reductions and product replacements. With its long-standing emphasis on research and development, the Company is well prepared to compete in the search for technological innovations and in the conception of expanded applications for existing products. Additional resources utilized by the Company to meet competition include quality control, flexibility to meet exact customer specifications, an efficient distribution system and a strong technical information service.

Distribution — Sales of products and related services are made to industrial users, healthcare providers, distributors, municipalities and utilities.

Raw Materials — Raw materials and supplies are normally available in quantities sufficient to meet the needs of this segment.

Patents and Trademarks — Although the Company has United States and foreign patents on apparatus, products, uses and processes relating to specialty chemical products, the patent protection afforded is not considered material in the aggregate. Worldwide, all of the Company's important products are sold under trademarks. Trademark protection continues in some countries as long as used; in other countries, as long as registered. Registration is for fixed terms and can be renewed indefinitely. Trademarks are considered in the aggregate to be of material importance.

Research and Development

The Company's business is characterized by the introduction of new products or new uses for existing products through a strong research and development program. Approximately 6,500 people are employed in the Company's research activities. Expenditures for the Company's research and development programs were $1,111.6 million in 1992, $987.8 million in 1991 and $854.0 million in 1990 and are expected to exceed $1.2 billion in 1993, an increase of 11% over 1992. These increases reflect the Company's ongoing commitment to research over a broad range of therapeutic areas and clinical development in support of new products. Total expenditures for the period 1980 through 1992 exceeded $7.4 billion with a compound annual growth rate of 15%. Costs incurred by the joint ventures in which the Company participates, totalling $313.2 million in 1992, are not included in the Company's consolidated research and development expenses.

The Company maintains a number of long-term exploratory and fundamental research programs in biology and chemistry as well as research programs directed toward product development. Projects related to human and animal health are being carried on in various fields such as bacterial and viral infections, cardiovascular functions, cancer, diabetes, inflammation, ulcer therapy, kidney function, mental health, the

nervous system, ophthalmic research, prostate therapy, the respiratory system, bone diseases, animal nutrition and production improvement, endoparasitic and ectoparasitic diseases and poultry genetics. Other programs are in the areas of food additives, wound dressings, corrosion and scale inhibition, polymers for use in water treatment, industrial biocides and insecticides.

In the development of human and animal health products, industry practice and government regulations in the United States and most foreign countries provide for the determination of effectiveness and safety of new chemical compounds through animal tests and controlled clinical evaluation. Before a new drug may be marketed in the United States, recorded data on the experience so gained are included in the NDA, biological Product License Application or the New Animal Drug Application to the FDA for the approval required. The development of certain other products, such as industrial biocides, insecticides and food additives, is also subject to government regulations covering safety and efficacy in the United States and many foreign countries. There can be no assurance that a compound that is the result of any particular program will obtain the regulatory approvals necessary for it to be marketed.

A potential new product for the Human and Animal Health segment resulting from this research and development program for which a Product License Application was submitted to the FDA in 1992 is *Varivax* (live attenuated chickenpox vaccine), a vaccine for the prevention of chickenpox. The FDA has requested that we provide additional information for the *Varivax* Product License Application. Also in late 1992 or early 1993, the Company submitted NDAs for a once-a-day glaucoma treatment, *Timoptic-XE* (timolol maleate in *Gelrite*), for *Roxiam*, a medication for the treatment of acute and chronic schizophrenia licensed from Astra, and for an over-the-counter form of the Company's ulcer medication *Pepcid*, to be marketed by the Johnson & Johnson • Merck Consumer Pharmaceuticals Co.

Employees

At the end of 1992 the Company had 38,400 employees worldwide, with 21,600 employed in the United States, including Puerto Rico. Approximately 19% of the Company's worldwide employees are represented by various collective bargaining groups.

Environmental Matters

The Company believes that it is in compliance in all material respects with applicable environmental laws and regulations. The Company has maintained a leadership role in supporting environmental initiatives and fostering pollution prevention by actions including the reduction of air emissions of carcinogens or suspect carcinogens by 90% in the aggregate for the Company. By the end of 1993, these emissions will either be eliminated or best available technology will be applied. Projects are currently underway to reduce all environmental releases of toxic chemicals by 90% by the end of 1995. In 1992, the Company incurred capital expenditures of approximately $86.7 million for environmental control facilities. Capital expenditures for this purpose are forecasted to exceed $400.0 million for the years 1993 through 1997. The Company is also remediating environmental contamination resulting from past industrial activity at certain of its sites. Expenditures for environmental purposes were $29.9 million in 1992 and are estimated at $205.0 million for the years 1993 through 1997. Since the Company has been accruing for these costs, management does not believe that these expenditures should ultimately result in a material adverse effect on the Company's financial position, results of operations, liquidity or capital resources.

Geographic Area Information

The Company's operations outside the United States are conducted primarily through subsidiaries. Sales by subsidiaries outside the United States were 46% of sales in 1992 and 1991 and 47% of sales in 1990.

The Company's worldwide business is subject to risks of currency fluctuations, governmental actions, including nationalization and expropriation, and other governmental proceedings abroad. The Company does not regard these risks as a deterrent to further expansion of its operations abroad. However, the Company closely reviews its methods of operations, particularly in less developed countries, and adopts strategies responsive to changing economic and political conditions.

The integration of the European market after 1992 will have an impact on businesses operating within the EC, particularly on businesses such as the Company's that maintain research facilities, manufacturing plants and marketing and sales organizations in several different countries in the EC. The Company is in the process of identifying opportunities to rationalize its operations within the EC so as to continue to meet the needs of its customers in the most efficient manner possible. The Company believes it will continue to be well positioned to compete successfully in this market, although it is not now possible to predict the extent to which the Company might be affected in the future by this development.

Financial information about geographic areas of the Company's business is incorporated by reference to page 45 of the Company's 1992 Annual Report to stockholders.

Item 2. Properties.

The Company's corporate headquarters is located in Whitehouse Station, New Jersey. The human and animal health business is conducted through divisional or subsidiary headquarters located in Rahway, New Jersey; West Point, Pennsylvania; Woodbridge, New Jersey; and Walpole, New Hampshire. Divisional or subsidiary headquarters in Pittsburgh, Pennsylvania; San Diego, California; and St. Louis, Missouri are used in the Specialty Chemical Products segment. Principal research facilities for human and animal health products are located in Rahway and West Point and, for specialty chemical products, in Pittsburgh, San Diego and St. Louis. The Company also has production facilities for human and animal health products at ten locations in the United States, for specialty chemical products at six locations in the United States and for both at two locations in the United States. Branch warehouses are conveniently located to serve markets throughout the country. Outside the United States, through subsidiaries, the Company owns or has an interest in manufacturing plants or other properties in most major countries of the free world.

Capital expenditures for 1992 were $1,066.6 million compared with $1,041.5 million for 1991. In the United States, these amounted to $784.0 million for 1992 and $716.6 million for 1991. Abroad, such expenditures amounted to $282.6 million for 1992 and $324.9 million for 1991.

The Company and its subsidiaries own their principal facilities and the manufacturing plants under titles which they consider to be satisfactory. The Company considers that its properties are in good operating condition and that its machinery and equipment have been well maintained. Plants for the manufacture of products for both segments are suitable for their intended purposes and have capacities adequate for current and projected needs for existing Company products. Some capacity of the human and animal health products plants is being converted, with any needed modification, to the requirements of newly introduced and future products.

Item 3. Legal Proceedings.

The Company is a party to a number of proceedings brought under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund. These proceedings seek to require the operators of hazardous waste disposal facilities, transporters of waste to the sites and generators of hazardous waste disposed of at the sites to clean up the sites or to reimburse the Government for cleanup costs. The Company has been made a party to these proceedings as an alleged generator of waste disposed of at the sites. In each case, the Government alleges that the defendants are jointly and severally liable for the cleanup costs. Although joint and several liability is alleged, these proceedings are frequently resolved on the basis of the quantity of waste disposed of at the site by the generator. The Company's potential liability varies greatly from site to site. For some sites the potential liability is *de minimis* and for others the costs of cleanup have not yet been determined. While it is not feasible to predict or determine the outcome of these proceedings or similar proceedings brought by state agencies or private litigants, in the opinion of the Company, such proceedings should not ultimately result in any liability which would have a material adverse effect on the financial position of the Company.

In March 1991, the Company reached agreement with the New Jersey Department of Environmental Protection (DEP) to settle a proceeding, commenced in September 1989, regarding alleged violations by the Company of discharge limitations in two permits for its Rahway, New Jersey site. The agreement provided for

the Company to pay a fine of $575,188 for alleged past violations and enter into a consent order under which it will undertake specific operational and equipment improvements to its Rahway facility's discharges of waste water and storm water. The consent order also provided for payment to DEP of stipulated penalties for discharge permit violations occurring after June 1990 until the improvements to the site's discharge system are complete, scheduled in the consent order to be no later than November 1, 1994. The Company has paid approximately $413,500 in additional stipulated penalties for discharge violations occurring after June 30, 1990.

There are various other legal proceedings, principally product liability and intellectual property suits, which are pending against the Company. While it is not feasible to predict or determine the outcome of these proceedings, in the opinion of the Company, all such proceedings are either adequately covered by insurance or, if not so covered, should not ultimately result in any liability which would have a material adverse effect on the financial position of the Company.

Item 4. Submission of Matters to a Vote of Security Holders.

Not applicable.

Executive Officers of the Registrant (as of March 1, 1993)

P. Roy Vagelos — Age 63

January, 1993 — Chairman of the Board and Chief Executive Officer

April, 1986 — Chairman of the Board, President and Chief Executive Officer

Clarence A. Abramson — Age 60

April, 1991 — Vice President and Secretary

April, 1989 — Secretary and Associate General Counsel

June, 1985 — Associate General Counsel

Albert D. Angel — Age 55

November, 1986 — Vice President, Public Affairs — responsible for public affairs function and The Merck Company Foundation and other philanthropic activities

David W. Anstice — Age 44

January, 1993 — Senior Vice President, Merck Human Health Division (MHHD)-Europe

April, 1991 — Senior Vice President, MHHD and President, U.S. Human Health

July, 1989 — Vice President, Marketing, Merck Sharp & Dohme Division

August, 1988 — Vice President, International Human Health Marketing, Merck Sharp & Dohme International Division

March, 1986 — Managing Director, Merck Sharp & Dohme (Australia) Pty. Limited

MICHAEL G. ATIEH — Age 39

April, 1990 — Treasurer

August, 1988 — Vice President, Government Relations

June, 1988 — Deputy to the Vice President, Government Relations

January, 1986 — Director, Investor Relations

STEVEN M. DARIEN — Age 50

April, 1990 — Vice President, Human Resources

May, 1989 — Vice President, Worldwide Personnel

February, 1985 — Vice President, Employee Relations

JERRY T. JACKSON — Age 51

January, 1993 — Executive Vice President and President, Merck Human Health Division — responsible for worldwide human health business

April, 1991 — Senior Vice President — responsible for activities of Merck AgVet and Merck Vaccine Divisions, Merck Specialty Chemicals and Merck Consumer Healthcare Groups and liaison with AB Astra and The Du Pont Merck Pharmaceutical Company

August, 1988 — President, Merck Sharp & Dohme International Division

February, 1986 — Senior Vice President, Corporate Human Health Marketing — responsible for development and direction of worldwide human health products marketing activities

RICHARD J. LANE — Age 41

January, 1993 — Senior Vice President, Merck Human Health Division (MHHD) and President, U.S. Human Health

April, 1991 — Senior Vice President, MHHD-Europe

October, 1990 — Vice President, Merck Sharp & Dohme (Europe) Inc. and Managing Director, Merck Sharp & Dohme Limited

January, 1990 — Executive Director, Marketing, Merck Sharp & Dohme Limited

January, 1987 — Executive Director, Marketing Planning, Merck Sharp & Dohme Division

JUDY C. LEWENT — Age 44

January, 1993 — Senior Vice President and Chief Financial Officer

April, 1990 — Vice President, Finance and Chief Financial Officer

October, 1987 — Vice President and Treasurer

RICHARD J. MARKHAM — Age 42

January, 1993 — President and Chief Operating Officer

April, 1991 — Senior Vice President and President, Merck Human Health Division

July, 1989 — Senior Vice President, Europe, Merck Sharp & Dohme International Division

January, 1987 — Vice President, Marketing, Merck Sharp & Dohme Division

EUGENE F. MCCABE — Age 62

July, 1987 — President, Merck AgVet Division

MARY M. MCDONALD — Age 48

January, 1993 — Senior Vice President and General Counsel

April, 1991 — Vice President and General Counsel

May, 1990 — Assistant General Counsel and Counsel, Merck Sharp & Dohme International Division

November, 1986 — Assistant General Counsel, Corporate Staff

EDWARD M. SCOLNICK — Age 52

January, 1993 — Executive Vice President and President, Merck Research Laboratories (MRL) — responsible for worldwide research function and activities of Merck AgVet Division and computer resources

April, 1991 — Senior Vice President and President, MRL — responsible for worldwide research function and activities of Merck Frosst Canada, Inc.

May, 1985 — President, Merck Sharp & Dohme Research Laboratories Division

EDWARD J. SOT — Age 50

April, 1989 — Controller

June, 1983 — Assistant Controller

FRANCIS H. SPIEGEL, JR. — Age 57

January, 1993 — Executive Vice President — responsible for human resources, internal auditing and corporate planning, development and licensing functions, activities of the Merck Consumer Healthcare Group and liaison with The Du Pont Merck Pharmaceutical Company

April, 1991 — Senior Vice President — responsible for financial, human resources, internal auditing and corporate planning, development and licensing functions

October, 1987 — Senior Vice President — responsible for financial, internal auditing and corporate planning, development and licensing functions

JOHN L. ZABRISKIE — Age 53

January, 1993 — Executive Vice President and President, Merck Manufacturing Division (MMD) — responsible for worldwide chemical, pharmaceutical and biological manufacturing, engineering, safety, environmental and public affairs functions, philanthropic activities and activities of Calgon Water Management and Kelco Divisions.

September, 1991 — Senior Vice President and President, MMD — responsible for worldwide chemical, pharmaceutical and biological manufacturing, computer resources, engineering, safety, environmentai and public affairs functions and philanthropic activities

April, 1991 — Senior Vice President — responsible for worldwide chemical, pharmaceutical and biological manufacturing, computer resources, engineering, safety, environmental and public affairs functions and philanthropic activities

August, 1988 — President, Merck Sharp & Dohme Division

July, 1983 — President, Merck Frosst Canada, Inc.

All officers listed above have been elected by the Board of Directors to serve until the next annual election by the Board or until their successors are elected and have qualified. None of these officers was elected pursuant to any arrangement or understanding between the officer and the Board. There are no family relationships among the officers listed above.

PART II

Item 5. Market for the Registrant's Common Equity and Related Stockholder Matters.

The information required for this item is incorporated by reference to pages 35 and 47 of the Company's 1992 Annual Report to stockholders.

Item 6. Selected Financial Data.

The information required for this item is incorporated by reference to the data for the last five fiscal years of the Company included under Results for Year and Year-End Position in the Selected Financial Data included on page 47 of the Company's 1992 Annual Report to stockholders.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The information required for this item is incorporated by reference to pages 29 through 35 of the Company's 1992 Annual Report to stockholders.

Item 8. Financial Statements and Supplementary Data.

(a) Financial Statements

The consolidated balance sheet of Merck & Co., Inc. and Subsidiaries as of December 31, 1992 and 1991, and the related consolidated statements of income, retained earnings and cash flows for each of the three years in the period ended December 31, 1992 and the report dated January 26, 1993 of Arthur Andersen & Co., independent public accountants, are incorporated by reference to pages 36 through 45 and page 46 of the Company's 1992 Annual Report to stockholders.

(b) Supplementary Data

Selected quarterly financial data for 1992 and 1991 are incorporated by reference to page 35 of the Company's 1992 Annual Report to stockholders.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

Not applicable.

PART III

Item 10. Directors and Executive Officers of the Registrant.

The required information on directors and nominees is incorporated by reference to pages 2-5 of the Company's Proxy Statement for the Annual Meeting of Stockholders to be held April 27, 1993. Information on executive officers is set forth in Part I of this document on pages 9-11.

The required information pursuant to Item 405 of Regulation S-K is incorporated by reference to page 21 of the Company's Proxy Statement for the Annual Meeting of Stockholders to be held April 27, 1993.

Item 11. Executive Compensation.

The information required for this item is incorporated by reference to pages 7-8 and 11-14 of the Company's Proxy Statement for the Annual Meeting of Stockholders to be held April 27, 1993.

Item 12. Security Ownership of Certain Beneficial Owners and Management.

The information required for this item is incorporated by reference to page 8 of the Company's Proxy Statement for the Annual Meeting of Stockholders to be held April 27, 1993.

Item 13. Certain Relationships and Related Transactions.

The information required for this item is incorporated by reference to page 7 of the Company's Proxy Statement for the Annual Meeting of Stockholders to be held April 27, 1993.

PART IV

Item 14. Exhibits, Financial Statement Schedules and Reports on Form 8-K.

(a) Documents filed as part of this Form 10-K

(i) Financial Statements:

Consolidated statement of income for the years ended December 31, 1992, 1991 and 1990

Consolidated statement of retained earnings for the years ended December 31, 1992, 1991 and 1990

Consolidated balance sheet, December 31, 1992 and 1991

Consolidated statement of cash flows for the years ended December 31, 1992, 1991 and 1990

Notes to financial statements

Report of Independent Public Accountants

This information is incorporated by reference to the Company's 1992 Annual Report to stockholders, as noted on page 12 of this document.

(ii) Financial Statement Schedules:

Report of Independent Public Accountants on Schedules

I — Marketable securities — other investments at December 31, 1992

II — Amounts receivable from related parties and underwriters, promoters and employees other than related parties for the years ended December 31, 1992, 1991 and 1990

V — Property, plant and equipment for the years ended December 31, 1992, 1991 and 1990

VI — Accumulated depreciation of property, plant and equipment for the years ended December 31, 1992, 1991 and 1990

IX — Short-term borrowings for the years ended December 31, 1992, 1991 and 1990

The registrant is primarily an operating company and all of the subsidiaries included in the consolidated financial statements filed are wholly owned except for minority interests in three consolidated subsidiaries.

Schedules other than those listed above are omitted because they are either not required, not applicable or the information is included in the consolidated financial statements or notes thereto.

(b) Exhibits

Exhibit Number	Description	Method of Filing
3(a)	— Restated Certificate of Incorporation of Merck & Co., Inc. (May 6, 1992)	Filed with this document
3(b)	— By-Laws of the Company (as amended November 22, 1988)	Incorporated by reference to Form 10-K Annual Report for the fiscal year ended December 31, 1988
10(a)	— Executive Incentive Plan (as amended effective May 6, 1992)	Filed with this document
10(b)	— 1981 Incentive Stock Option Plan (as amended effective May 6, 1992)	Filed with this document
10(c)	— 1981 Nonqualified Stock Option Plan (as amended effective May 6, 1992)	Filed with this document
10(d)	— 1987 Incentive Stock Plan (as amended effective May 6, 1992)	Filed with this document
10(e)	— 1991 Incentive Stock Plan (as adopted on April 23, 1991)	Incorporated by reference to Form 10-K Annual Report for the fiscal year ended December 31, 1991
10(f)	— Non-Employee Directors Stock Option Plan (as adopted on April 28, 1992 and restated May 6, 1992)	Filed with this document
10(g)	— Supplemental Retirement Plan (as amended effective December 1, 1991)	Incorporated by reference to Form 10-K Annual Report for the fiscal year ended December 31, 1991
10(h)	— Retirement Plan for the Directors of Merck & Co., Inc. (as adopted on September 22, 1987, effective April 29, 1987)	Filed with this document
10(i)	— Plan for Deferred Payment of Directors' Compensation (as amended effective June 22, 1992)	Filed with this document
11	— Computation of Earnings per common share	Filed with this document
12	— Computation of Ratios of Earnings to Fixed Charges	Filed with this document
13	— 1992 Annual Report to stockholders (only those portions incorporated by reference in this document are deemed "filed")	Filed with this document
22	— List of subsidiaries	Filed with this document
25	— Power of Attorney and Certified Resolution of Board of Directors	Filed with this document

Instruments defining the rights of holders of long-term debt of the Company and its subsidiaries (Exhibit Number 4) are not being filed since the total amount of securities authorized under such instruments does not exceed 10 percent of the total assets of the Company and its subsidiaries on a consolidated basis. The Company agrees to furnish a copy of such instruments to the Commission upon request.

Copies of the exhibits may be obtained by stockholders upon written request directed to the Stockholder Services Department, Merck & Co., Inc., P.O. Box 100—WS 3AB-40, Whitehouse Station, New Jersey 08889-0100 accompanied by check in the amount of $5.00 payable to Merck & Co., Inc. to cover processing and mailing costs.

(c) Reports on Form 8-K

During the three-month period ending December 31, 1992, the Company did not file any reports on Form 8-K.

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS ON SCHEDULES

To Merck & Co., Inc.:

We have audited in accordance with generally accepted auditing standards, the consolidated financial statements included in Merck & Co., Inc.'s 1992 Annual Report to stockholders incorporated by reference in this Form 10-K, and have issued our report thereon dated January 26, 1993. Our audits were made for the purpose of forming an opinion on those basic financial statements taken as a whole. The schedules listed in Item 14 are the responsibility of the Company's management and are presented for purposes of complying with the Securities and Exchange Commission's rules and are not part of the basic financial statements. These schedules have been subjected to the auditing procedures applied in the audits of the basic financial statements and, in our opinion, fairly state in all material respects the financial data required to be set forth therein in relation to the basic financial statements taken as a whole.

ARTHUR ANDERSEN & CO.

New York, New York
January 26, 1993

Schedule I

MERCK & CO., INC. AND SUBSIDIARIES

SCHEDULE I — MARKETABLE SECURITIES — OTHER INVESTMENTS

December 31, 1992

($ in millions)

Name of Issuer or Title of Each Group(a)	Principal Amount of Bonds and Notes	Carrying Value of Each Group	Market Value of Each Group
SHORT-TERM INVESTMENTS:			
Corporate Notes	$191.7	$ 192.1	$ 192.4
Bank Time Deposits and Certificates of Deposit	$177.6	177.6	177.6
Municipal Bonds	$106.9	107.7	108.3
U.S. Government and Agencies	$ 34.5	34.5	35.1
Other Investments	$ 6.5	6.5	6.5
		$ 518.4	$ 519.9
INVESTMENTS:			
Corporate Notes	$437.0	$ 439.3	$ 444.3
Common Stock		241.7	328.3
Bank Certificates of Deposit	$240.0	240.3	244.4
Municipal Bonds	$115.7	120.3	121.0
U.S. Government and Agencies	$111.5	113.9	113.9
Mortgage Backed Securities	$ 65.2	65.7	67.5
Other Investments	$173.1	194.4	193.4
		$1,415.6	$1,512.8

(a) Securities of any individual issuer do not exceed 2% of total assets.

Schedule II

MERCK & CO., INC. AND SUBSIDIARIES

SCHEDULE II — AMOUNTS RECEIVABLE FROM RELATED PARTIES AND UNDERWRITERS, PROMOTORS AND EMPLOYEES OTHER THAN RELATED PARTIES

($ in millions)

Name of Debtor	Balance at Beginning of Period	Additions	Deductions		Balance at End of Period	
			Amounts Collected	Amounts Written-Off	Current	Noncurrent
Year Ended December 31, 1992:						
A. Butler (b)	$.1	—	$.1	—	—	—
Year Ended December 31, 1991:						
J. Mukamal (a)	$.2	—	$.2	—	—	—
A. Butler (b)	—	$.1	—	—	$.1	—
	$.2	$.1	$.2	—	$.1	—
Year Ended December 31, 1990:						
J. Mukamal (a)	—	$.2	—	—	$.2	—

(a) Represents a loan to purchase stock which was payable in March 1991 with interest at 10% per annum. The loan plus accrued interest was fully repaid in January 1991.

(b) Represents a loan to purchase stock which was payable in February 1992 with interest at 8% per annum. The loan plus accrued interest was fully repaid in February 1992.

Schedule V

MERCK & CO., INC. AND SUBSIDIARIES

SCHEDULE V — PROPERTY, PLANT AND EQUIPMENT

($ in millions)

Classification	Balance at Beginning of Period	Additions at Cost (a)	Retirements or Sales	Other Changes (c)	Balance at End of Period
Year ended December 31, 1992:					
Land	$ 195.7	$ 12.1	$ —	$ 2.5	$ 210.3
Buildings	1,483.3	647.7	11.0	2.1	2,122.1
Machinery, Equipment and Office Furnishings	3,002.2	569.1	141.7	5.4	3,435.0
Construction in Progress	925.6	(162.3)	—	.2	763.5
Total	$5,606.8	$1,066.6	$152.7(b)	$10.2	$6,530.9
Year ended December 31, 1991:					
Land	$ 169.5	$ 29.2	$ 3.0	—	$ 195.7
Buildings	1,258.4	229.0	4.1	—	1,483.3
Machinery, Equipment and Office Furnishings	2,660.6	393.6	52.0	—	3,002.2
Construction in Progress	542.0	389.7	6.1	—	925.6
Total	$4,630.5	$1,041.5	$ 65.2	—	$5,606.8
Year ended December 31, 1990:					
Land	$ 162.1	$ 6.8	$ .2	$ .8	$ 169.5
Buildings	1,129.1	133.3	4.0	—	1,258.4
Machinery, Equipment and Office Furnishings	2,417.2	274.2	30.8	—	2,660.6
Construction in Progress	285.5	256.5	—	—	542.0
Total	$3,993.9	$ 670.8	$ 35.0	$ .8	$4,630.5

(a) Additions, at cost, to construction in progress are net of transfers to other plant and equipment classifications for those construction projects completed during the year.

(b) Includes sale of assets related to divestitures.

(c) Represents balances at date of acquisition for assets acquired and accounted for as a purchase transaction.

MERCK & CO., INC. AND SUBSIDIARIES

SCHEDULE VI — ACCUMULATED DEPRECIATION OF PROPERTY, PLANT AND EQUIPMENT

($ in millions)

Classification	Balance at Beginning of Period	Additions Charged to Costs and Expenses	Retirements or Sales	Balance at End of Period
Year ended December 31, 1992:				
Buildings	$ 501.7	$ 71.4	$ 16.4	$ 556.7
Machinery, Equipment and Office Furnishings	1,600.6	218.9	116.4	1,703.1
Total	$2,102.3	$290.3	$132.8(a)	$2,259.8
Year ended December 31, 1991:				
Buildings	$ 447.7	$ 55.6	$ 1.6	$ 501.7
Machinery, Equipment and Office Furnishings	1,461.1	187.1	47.6	1,600.6
Total	$1,908.8	$242.7	$ 49.2	$2,102.3
Year ended December 31, 1990:				
Buildings	$ 399.6	$ 48.9	$ .8	$ 447.7
Machinery, Equipment and Office Furnishings	1,301.8	182.5	23.2	1,461.1
Total	$1,701.4	$231.4	$ 24.0	$1,908.8

(a) Includes sale of assets related to divestitures.

NOTE: Depreciation is provided over the estimated lives of the assets, principally using the straight-line method. The estimated useful lives are 10 to 50 years for Buildings, and 3 to 20 years for Machinery, Equipment and Office Furnishings.

Schedule IX

MERCK & CO., INC. AND SUBSIDIARIES

SCHEDULE IX — SHORT-TERM BORROWINGS

($ in millions)

assification	Balance at End of Period	Weighted Average Interest Rate at End of Period	Maximum Month-end Balance Outstanding During the Year	Average Month-end Balance Outstanding During the Year	Weighted Average Interest Rate During the Year(a)
Year ended December 31, 1992:					
Commercial Paper and Medium-Term Notes	$609.3	3.4%	$810.2	$394.8	3.5%
Bank Borrowings in foreign currencies(b)	76.3	10.8%	$159.9	105.1	10.7%
Other(c)	42.4	4.4%	$ 42.4	30.4	4.7%
	$728.0	4.2%		$530.3	5.0%
Year ended December 31, 1991:					
Notes with Bank Trust Departments and Commercial Paper	$ 65.0	4.9%	$883.6	$428.2	6.2%
Bank Borrowings in foreign currencies(b)	123.8	8.3%	$123.8	62.5	9.7%
Other(b)(c)	29.2	5.2%	$ 29.5	28.7	6.9%
	$218.0	6.9%		$519.4	6.7%
Year ended December 31, 1990:					
Notes with Bank Trust Departments and Commercial Paper	$671.7	8.0%	$724.4	$516.7	8.0%
Bank Borrowings in foreign currencies(b)	98.7	15.6%	$ 98.7	58.6	14.4%
Other(c)	21.1	10.2%	$ 28.0	26.8	8.4%
	$791.5	9.0%		$602.1	8.6%

(a) The weighted average interest rates were calculated on the basis of month-end borrowings.

(b) Amounts exclude the current portion of long-term debt.

(c) Principally short-term tax-exempt borrowings and U.S. dollar denominated borrowings.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) 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.

MERCK & CO., INC.

Dated: March 23, 1993

By P. ROY VAGELOS
(Chairman of the Board, President and Chief Executive Officer)

By CLARENCE A. ABRAMSON
Clarence A. Abramson (Attorney-in-Fact)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signatures	Title	Date
P. ROY VAGELOS	Chairman of the Board and Chief Executive Officer; Principal Executive Officer; Director	March 23, 1993
JUDY C. LEWENT	Senior Vice President and Chief Financial Officer; Principal Financial Officer	
EDWARD J. SOT	Controller; Principal Accounting Officer	
H. BREWSTER ATWATER, JR.	Directors	
DEREK BIRKIN		
LAWRENCE A. BOSSIDY		
WILLIAM G. BOWEN		
CAROLYNE K. DAVIS		
LLOYD C. ELAM		
JOHN J. HORAN		
WILLIAM N. KELLEY		
RICHARD J. MARKHAM		
ALBERT W. MERCK		
RUBEN F. METTLER		
RICHARD S. ROSS		
DENNIS WEATHERSTONE		

Clarence A. Abramson, by signing his name hereto, does hereby sign this document pursuant to powers of attorney duly executed by the persons named, filed with the Securities and Exchange Commission as an exhibit to this document, on behalf of such persons, all in the capacities and on the date stated, such persons including a majority of the directors of the Company.

By CLARENCE A. ABRAMSON
Clarence A. Abramson (Attorney-in-Fact)

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation of our reports included in or incorporated by reference in this Form 10-K, into the Company's previously filed Registration Statements on Form S-8 (Nos. 33-21087, 33-21088, 33-36101 and 33-40177) and on Form S-3 (No. 33-39349). It should be noted that we have not audited any financial statements of the Company subsequent to December 31, 1992 or performed any audit procedures subsequent to the date of our reports.

ARTHUR ANDERSEN & CO.

New York, New York
March 23, 1993

SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 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 March 31, 1993

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 No. 1-3305

MERCK & CO., INC.
P. O. Box 100
One Merck Drive
Whitehouse Station, N.J. 08889-0100
(908) 423-4000

Incorporated in New Jersey

I.R.S. Employer Identification No. 22-1109110

The number of shares of common stock outstanding as of the close of business on April 30, 1993:

Class	Number of Shares Outstanding
Common Stock	1,138,945,780

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 _____

MERCK & CO., INC. AND SUBSIDIARIES
INTERIM CONSOLIDATED STATEMENT OF INCOME
THREE MONTHS ENDED MARCH 31, 1993 AND 1992
($ in millions except per share amounts)

	Three Months Ended March 31	
	1993	1992
Sales	$2,379.6	$2,223.4
Costs and Expenses		
Materials and production	536.7	470.6
Marketing and administrative	691.7	688.0
Research and development	260.9	248.1
Other (income) expense, net	(23.1)	(23.4)
	1,466.2	1,383.3
Income Before Taxes and Cumulative Effect of Accounting Changes	913.4	840.1
Taxes on Income	299.6	281.1
Income Before Cumulative Effect of Accounting Changes	613.8	559.0
Cumulative Effect of Accounting Changes:		
Postretirement benefits other than pensions	-	(370.2)
Income taxes	-	(62.6)
Postemployment benefits	-	(29.6)
Net Income	$ 613.8	$ 96.6
Per Share of Common Stock:		
Before Cumulative Effect of Accounting Changes	$.54	$.48
Cumulative Effect of Accounting Changes:		
Postretirement benefits other than pensions	-	(.32)
Income taxes	-	(.05)
Postemployment benefits	-	(.03)
Net Income	$.54	$. 08
Dividends Declared	$.25	$.23
Average Number of Common Shares Outstanding (millions)	1,142.7	1,159.0

The accompanying notes are an integral part of this financial statement.

MERCK & CO., INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEET
MARCH 31, 1993 AND DECEMBER 31, 1992
($ in millions)

	March 31 1993	December 31 1992
ASSETS		
Current Assets		
Cash and cash equivalents	$ 702.5	$ 575.1
Short-term investments	455.0	518.4
Accounts receivable	1,706.1	1,736.9
Inventories	1,220.1	1,182.6
Prepaid expenses and taxes	403.1	386.7
Total Current Assets	4,486.8	4,399.7
Property, Plant and Equipment, at cost, net of allowance for depreciation of $2,331.5 in 1993 and $2,259.8 in 1992	4,382.8	4,271.1
Investments	1,593.5	1,415.6
Other Assets	1,078.1	999.6
	$11,541.2	$11,086.0
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable and accrued liabilities	$ 1,449.8	$ 1,461.9
Loans payable	976.9	825.2
Income taxes payable	1,176.8	1,043.8
Dividends payable	285.5	286.4
Total Current Liabilities	3,889.0	3,617.3
Long-Term Debt	489.0	495.7
Deferred Income Taxes and Noncurrent Liabilities	1,328.1	1,343.0
Minority Interests	662.9	627.1
Stockholders' Equity		
Common stock		
Authorized - 2,700,000,000 shares		
Issued - 1,366,572,924 shares	217.6	204.7
Retained earnings	8,794.3	8,466.0
	9,011.9	8,670.7
Less treasury stock, at cost		
226,059,714 shares - 1993	3,839.7	3,667.8
221,878,127 shares - 1992		
Total Stockholders' Equity	5,172.2	5,002.9
	$11,541.2	$11,086.0

The accompanying notes are an integral part of this financial statement.

MERCK & CO., INC. AND SUBSIDIARIES
INTERIM CONSOLIDATED STATEMENT OF CASH FLOWS
THREE MONTHS ENDED MARCH 31, 1993 AND 1992
($ in millions)

	Three Months Ended March 31	
	1993	1992
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income	$ 613.8	$ 96.6
Cumulative Effect of Accounting Changes:		
Postretirement benefits other than pensions	-	370.2
Income taxes	-	62.6
Postemployment benefits	-	29.6
Adjustments to net income	76.7	36.2
Net changes in assets and liabilities	(3.4)	(56.0)
NET CASH PROVIDED BY OPERATING ACTIVITIES	687.1	539.2
CASH FLOWS FROM INVESTING ACTIVITIES		
Capital expenditures	(204.3)	(204.2)
Purchase of securities, subsidiaries and other investments	(2,094.9)	(1,115.6)
Proceeds from sale of securities, subsidiaries and other investments	2,025.4	1,075.4
Other	4.8	(18.2)
NET CASH USED BY INVESTING ACTIVITIES	(269.0)	(262.6)
CASH FLOWS FROM FINANCING ACTIVITIES		
Net change in short-term borrowings	151.8	(100.2)
Proceeds from issuance of debt	1.5	100.7
Payments on debt	(6.5)	(.9)
Purchase of treasury stock	(180.6)	(132.2)
Dividends paid to stockholders	(286.3)	(243.7)
Other	19.8	25.8
NET CASH USED BY FINANCING ACTIVITIES	(300.3)	(350.5)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	9.6	(29.2)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	127.4	(103.1)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	575.1	797.9
CASH AND CASH EQUIVALENTS AT END OF PERIOD	$ 702.5	$ 694.8

The accompanying notes are an integral part of this financial statement.

Notes to Financial Statements

1. The accompanying unaudited interim financial statements have been prepared pursuant to the rules and regulations for reporting on Form 10-Q. Accordingly, certain disclosures required by generally accepted accounting principles are not included herein. The interim statements should be read in conjunction with the financial statements and notes thereto included in the Company's latest Annual Report on Form 10-K.

   Interim statements are subject to possible adjustment in connection with the annual audit of the Company's accounts for the full year 1993; in the Company's opinion, all adjustments necessary for a fair presentation of these interim statements have been included.

2. Inventories consisted of:

	($ in millions)	
	March 31 1993	December 31 1992
Finished goods	$ 591.7	$ 573.0
Raw materials and work in process	584.3	565.4
Supplies	67.1	64.8
Total (approximates current cost)	1,243.1	1,203.2
Reduction to LIFO cost	23.0	20.6
	$1,220.1	$1,182.6

3. Sales consisted of:

	($ in millions) Three Months Ended March 31	
	1993	1992
Human and Animal Health Products:		
Cardiovasculars	$1,109.2	$1,035.7
Anti-ulcerants	292.4	229.1
Antibiotics	206.0	230.5
Vaccines/biologicals	126.5	97.8
Ophthalmologicals	102.0	107.4
Anti-inflammatories/analgesics	86.0	108.9
Other human health	101.5	81.9
Animal health/crop protection	204.2	188.1
	2,227.8	2,079.4
Specialty Chemical Products	151.8	144.0
	$2,379.6	$2,223.4

4. Other (income) expense, net, consisted of (income) and expenses of:

	($ in millions) Three Months Ended March 31	
	1993	1992
Interest income	$ (34.7)	$ (34.4)
Interest expense	19.6	13.0
Exchange losses	14.0	7.8
Minority interests	6.3	3.4
Other income, net	(28.3)	(13.2)
	$ (23.1)	$ (23.4)

Minority interests include third parties' share of exchange gains and losses arising from translation of the financial statements into U.S. dollars.

Interest paid for the three-month period ended March 31, 1993 and 1992 was $15.6 million and $6.2 million, respectively.

5. Income taxes paid for the three-month period ended March 31, 1993 and 1992 were $140.2 million and $89.1 million, respectively.

6. Legal proceedings to which the Company is a party are discussed in Item 3, Legal Proceedings, in the Annual Report on Form 10-K. There were no material developments in the three-month period ended March 31, 1993.

Earnings per share for the first quarter of 1993 were $.54, up 11 percent compared to the first quarter of 1992, excluding the cumulative effect of accounting changes adopted in the first quarter of 1992. First quarter net income was $613.8, up 10 percent over 1992 on the same basis.

Sales for the quarter were $2.4 billion, up 7 percent from the same period last year.

Sales growth for the quarter was led by newer products. Both domestic and international operations reported strong unit volume gains. Foreign exchange reduced first quarter sales by 3 percentage points. Excluding exchange, sales were up 10 percentage points for the quarter. Price increases had virtually no effect on sales growth. Sales outside the United States accounted for 43 percent of 1993 first quarter sales, compared with 45 percent for the same period last year.

Income growth for the quarter resulted from strong unit volume gains, cost controls and productivity improvements, and a lower tax rate. The unfavorable effect from exchange combined with the net impact of inflation reduced first quarter earnings.

Earnings growth is expected to moderate for 1993, affected by the increasingly turbulent, competitive environment in the United States, health-care cost-containment measures worldwide and the unfavorable effects of foreign currencies. This moderation in 1993 earnings growth began in the first quarter, and further moderation may occur in the second quarter. To better prepare itself to compete in the 1990s, the Company is undertaking certain efforts to accelerate the streamlining of its operations on a worldwide basis. These efforts include offering a retirement incentive in the United States, evaluating other restructuring actions worldwide and pursuing strategic marketing initiatives. The cost of some of these programs will result in a nonrecurring charge to the earnings of a subsequent quarter when the amounts are determinable.

In the human and animal health products segment of Merck's business, results for the first quarter reflected strong sales gains by 'Vasotec', 'Vaseretic', 'Prinivil', 'Zocor', 'Pepcid', 'Prilosec' and ivermectin. Vaccine sales were also strong for the quarter. 'Proscar', which was introduced in 1992, contributed to the sales increase.

'Proscar' has been introduced in 23 countries, including the United States, and has received medical clearance in 11 other countries. 'Proscar' is a significant medical advance in the treatment of symptomatic benign prostate enlargement -- a common condition which affects the majority of men over the age of 50. Experience to date in the markets where the product is available continues to be consistent with our expectations that an extensive education program is required to heighten awareness of the disease, improve understanding of its natural history and communicate the benefits of treatment with 'Proscar' which suggest an arrest in the disease process.

'Vasotec', Merck's angiotensin converting enzyme (ACE) inhibitor for reducing high blood pressure and treating symptomatic heart failure, is being sold in all major markets, and continues to be the leading branded product in the worldwide antihypertensive market. In the second quarter of 1992, 'Vasotec' received a broadened heart failure indication in the United States. According to the revised prescribing information, 'Vasotec' improves symptoms, increases survival and decreases the frequency of hospitalization in patients with all degrees of symptomatic heart failure. In February of 1993 a Food and Drug Administration (F.D.A.) Advisory Committee recommended the use of 'Vasotec' to delay the onset of symptomatic heart failure and decrease the need for related hospitalizations in asymptomatic patients with left ventricular dysfunction.

'Vaseretic', a combination of 'Vasotec' and hydrochlorothiazide for the treatment of high blood pressure, and 'Prinivil', Merck's second ACE inhibitor for reducing high blood pressure, continue to have strong growth. In February of 1993, an F.D.A. Advisory Committee recommended broadening the labeling indication for 'Prinivil' to treat all stages of symptomatic heart failure.

Merck's cholesterol-lowering agents, 'Mevacor' and 'Zocor', hold over 40 percent of the worldwide cholesterol-lowering market. 'Zocor' continued to have strong sales growth. Unit sales for 'Mevacor', however, were virtually flat due to government cost control actions around the world, strong competition in the United States and the slowing of growth in the cholesterol-lowering market, particularly in the United States. A two-week competitive discount program in the United States helped 'Mevacor' and 'Zocor' sales in the quarter. Nearly three quarters of the people who have cholesterol levels in the recommended treatment range are untreated, and Merck is undertaking strategic initiatives to increase the appropriate usage of 'Mevacor' and 'Zocor'.

'Pepcid', an H_2-receptor antagonist for treatment of duodenal and gastric ulcers, continues to grow rapidly in the United States and maintains its market share against strong competition abroad. In 1992, the indications for 'Pepcid' were expanded for treatment of gastroesophageal reflux disease (GERD) in several countries, including the United States.

'Prilosec', which is the first drug to inhibit the enzyme that releases acid into the stomach, continues to show strong growth. It is indicated for first line therapy for short-term treatment of active duodenal ulcers and GERD and other severe and poorly responsive gastrointestinal diseases.

'Recombivax HB' for the prevention of hepatitis B led vaccine sales due in large part to two actions. U.S. Government guidelines have directed employers to make hepatitis B vaccine available to workers in high-exposure jobs, and the Centers for Disease Control and the American Academy of Pediatrics have recommended that all infants be routinely vaccinated against hepatitis B at birth.

Ivermectin, Merck's broad-spectrum antiparasitic, which is the world's leading animal health product, continues to grow.

Unit sales declined for a group of longer-established human and animal health products due to competition.

On February 17, 1993, the Company announced its intention to sell the Specialty Chemical segment's Calgon Water Management business. The decision reflects the Company's intention to focus its management and financial resources more fully on its core health-care business. The Company is seeking a buyer whose strategic interest will be to focus on the continued growth and success of Calgon's business. The sale of this business is not expected to have a significant impact on the Company's financial position or results of operations.

On March 31, 1993, Merck filed a shelf registration with the Securities and Exchange Commission under which the Company may issue up to $1 billion of debt securities. The shelf registration will facilitate debt offerings if appropriate conditions develop. The securities may be offered to investors through one or more underwriters, agents or dealers. Proceeds from the sale of these securities would be used for general corporate purposes, including the reduction of short-term debt. Funds not immediately required for such purposes may be invested temporarily in short-term securities.

Part II - Other Information

Item 6. Exhibits and Reports on Form 8-K

(a) Exhibits	Description	Method of Filing
11	Computation of Earnings Per Common Share	Filed with this document
12	Computation of Ratios of Earnings to Fixed Charges	Filed with this document

(b) Reports on Form 8-K

During the three-month period ending March 31, 1993, the following reports were filed on Form 8-K under Item 5, Other Events:

1. The report dated January 11, 1993, and filed January 20, 1993, announcing the approval of up to an additional $1 billion under the Registrant's program for purchasing shares of its common stock for its treasury.

2. The report dated February 17, 1993, and filed February 24, 1993, announcing the Registrant's intention to sell its Calgon Water Management Division.

3. The report dated March 23, 1993, and filed March 26, 1993, announcing Registrant's anticipated moderation in 1993 earnings growth, beginning in the first quarter of 1993, and its intent to reduce worldwide employment by 1,000 people in 1993.

Signatures

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.

MERCK & CO., INC.

/s/ Mary M. McDonald

Date: May 10, 1993

MARY M. MCDONALD
Senior Vice President and General Counsel

/s/ Edward J. Sot

Date: May 10, 1993

EDWARD J. SOT
Controller
(Chief Accounting Officer)

SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 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, 1993

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 No. 1-3305

MERCK & CO., INC.
P. O. Box 100
One Merck Drive
Whitehouse Station, N.J. 08889-0100
(908) 423-1000

Incorporated in New Jersey

I.R.S. Employer Identification No. 22-1109110

The number of shares of common stock outstanding as of the close of business on July 31, 1993:

Class	Number of Shares Outstanding
Common Stock	1,135,570,259

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 _____

MERCK & CO., INC. AND SUBSIDIARIES
INTERIM CONSOLIDATED STATEMENT OF INCOME
THREE MONTHS AND SIX MONTHS ENDED JUNE 30, 1993 AND 1992
($ in millions except per share amounts)

	Three Months Ended June 30		Six Months Ended June 30	
	1993	1992	1993	1992
Sales	$2,573.6	$2,373.7	$4,953.3	$4,597.0
Costs and Expenses				
Materials and production	583.5	531.4	1,120.2	1,002.0
Marketing and administrative	732.6	663.7	1,424.3	1,351.7
Research and development	270.1	262.8	531.0	510.9
Restructuring charge	775.0	-	775.0	-
Other (income) expense, net	(10.6)	(17.2)	(33.5)	(40.7)
	2,350.6	1,440.7	3,817.0	2,823.9
Income Before Taxes and Cumulative Effect of Accounting Changes	223.0	933.0	1,136.3	1,773.1
Taxes on Income	50.4	289.3	350.0	570.4
Income Before Cumulative Effect of Accounting Changes	172.6	643.7	786.3	1,202.7
Cumulative Effect of Accounting Changes:				
Postretirement benefits other than pensions	-	-	-	(370.2)
Income taxes	-	-	-	(62.6)
Postemployment benefits	-	-	-	(29.6)
Net Income	$ 172.6	$ 643.7	$ 786.3	$ 740.3
Per Share of Common Stock:				
Before Cumulative Effect of Accounting Changes	$.15	$.56	$.69	$1.04
Cumulative Effect of Accounting Changes:				
Postretirement benefits other than pensions	-	-	-	(.32)
Income taxes	-	-	-	(.05)
Postemployment benefits	-	-	-	(.03)
Net Income	$.15	$.56	$.69	$ .64
Dividends Declared	$.25	$.23	$.50	$.46
Average Number of Common Shares Outstanding (millions)	1,138.6	1,156.0	1,140.7	1,157.4

The accompanying notes are an integral part of this financial statement.

MERCK & CO., INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEET
JUNE 30, 1993 AND DECEMBER 31, 1992
($ in millions)

	June 30 1993	December 31 1992
ASSETS		
Current Assets		
Cash and cash equivalents	$ 847.8	$ 575.1
Short-term investments	547.0	518.4
Accounts receivable	2,068.3	1,736.9
Inventories	1,226.6	1,182.6
Prepaid expenses and taxes	449.5	386.7
Total Current Assets	5,139.2	4,399.7
Property, Plant and Equipment, at cost, net of allowance for depreciation of $2,158.0 in 1993 and $2,259.8 in 1992	4,424.7	4,271.1
Investments	1,633.0	1,415.6
Other Assets	1,128.8	999.6
	$12,325.7	$11,086.0
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities		
Accounts payable and accrued liabilities	$ 2,003.9	$ 1,461.9
Loans payable	1,341.1	825.2
Income taxes payable	1,228.9	1,043.8
Dividends payable	284.6	286.4
Total Current Liabilities	4,858.5	3,617.3
Long-Term Debt	577.6	495.7
Deferred Income Taxes and Noncurrent Liabilities	1,243.2	1,343.0
Minority Interests	718.9	627.1
Stockholders' Equity		
Common stock		
Authorized - 2,700,000,000 shares		
Issued - 1,366,572,924 shares	218.6	204.7
Retained earnings	8,682.3	8,466.0
	8,900.9	8,670.7
Less treasury stock, at cost		
229,572,306 shares - 1993	3,973.4	3,667.8
221,878,127 shares - 1992		
Total Stockholders' Equity	4,927.5	5,002.9
	$12,325.7	$11,086.0

The accompanying notes are an integral part of this financial statement.

MERCK & CO., INC. AND SUBSIDIARIES
INTERIM CONSOLIDATED STATEMENT OF CASH FLOWS
SIX MONTHS ENDED JUNE 30, 1993 AND 1992
($ in millions)

	Six Months Ended June 30	
	1993	1992
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income	$ 786.3	$ 740.3
Restructuring charge	775.0	-
Cumulative Effect of Accounting Changes:		
Postretirement benefits other than pensions	-	370.2
Income taxes	-	62.6
Postemployment benefits	-	29.6
Other adjustments to net income	(218.0)	101.4
Net changes in assets and liabilities	(212.3)	(358.6)
NET CASH PROVIDED BY OPERATING ACTIVITIES	1,131.0	945.5
CASH FLOWS FROM INVESTING ACTIVITIES		
Capital expenditures	(469.0)	(469.7)
Purchase of securities, subsidiaries and other investments	(4,176.9)	(1,953.1)
Proceeds from sale of securities, subsidiaries and other investments	4,021.7	1,909.2
Other	(2.3)	(3.2)
NET CASH USED BY INVESTING ACTIVITIES	(626.5)	(516.8)
CASH FLOWS FROM FINANCING ACTIVITIES		
Net change in short-term borrowings	514.5	185.7
Proceeds from issuance of debt	99.7	112.4
Payments on debt	(12.5)	(5.6)
Purchase of treasury stock	(320.1)	(332.8)
Dividends paid to stockholders	(571.8)	(510.4)
Other	26.2	37.3
NET CASH USED BY FINANCING ACTIVITIES	(264.0)	(513.4)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	32.2	2.7
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	272.7	(82.0)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	575.1	797.9
CASH AND CASH EQUIVALENTS AT END OF PERIOD	$ 847.8	$ 715.9

The accompanying notes are an integral part of this financial statement.

Notes to Financial Statements

1. The accompanying unaudited interim financial statements have been prepared pursuant to the rules and regulations for reporting on Form 10-Q. Accordingly, certain disclosures required by generally accepted accounting principles are not included herein. These interim statements should be read in conjunction with the financial statements and notes thereto included in the Company's latest Annual Report on Form 10-K.

   Interim statements are subject to possible adjustment in connection with the annual audit of the Company's accounts for the full year 1993; in the Company's opinion, all adjustments necessary for a fair presentation of these interim statements have been included.

Notes to Financial Statements (continued)

2. Inventories consisted of:

	($ in millions) June 30 1993	December 31 1992
Finished goods	$ 594.9	$ 573.0
Raw materials and work in process	596.7	565.4
Supplies	67.2	64.8
Total (approximates current cost)	1,258.8	1,203.2
Reduction to LIFO cost	32.2	20.6
	$1,226.6	$1,182.6

3. In June 1993, under a $1.0 billion shelf registration filed with the Securities and Exchange Commission in March 1993, the Company issued $80.0 million of noncallable notes bearing floating interest rates slightly below commercial paper interest rates, with interest payable primarily semi-annually and quarterly. These notes have varying maturity dates during 1994 and 1995.

4. Sales consisted of:

	($ in millions) Three Months Ended June 30		Six Months Ended June 30	
	1993	1992	1993	1992
Human and Animal Health Products:				
Cardiovasculars	$1,181.1	$1,096.1	$2,290.3	$2,131.8
Anti-ulcerants	335.3	247.7	627.7	476.7
Antibiotics	227.4	230.2	433.4	460.7
Vaccines/biologicals	126.7	106.5	253.2	204.3
Ophthalmologicals	114.6	110.5	216.6	217.9
Anti-inflammatories/analgesics	80.9	115.0	166.9	223.9
Other human health	118.9	93.0	220.5	174.9
Animal health/crop protection	232.1	222.2	436.3	410.3
	2,417.0	2,221.2	4,644.9	4,300.5
Specialty Chemical Products	156.6	152.5	308.4	296.5
	$2,573.6	$2,373.7	$4,953.3	$4,597.0

5. As previously announced, the Company is undertaking efforts to accelerate the streamlining and restructuring of its operations worldwide. These actions are designed to more aggressively pursue productivity and cost containment programs, streamline the organization and increase overall profitability to assure the continued strength and competitiveness of the Company in the years to come. As a result of these efforts, the Company recorded a nonrecurring pretax restructuring charge of $775.0 million, or $.46 per share (after-tax), in the second quarter of 1993. These streamlining and restructuring actions include the consolidation of certain manufacturing facilities and early retirement programs in the United States and other work force reduction programs throughout the world.

6. Other (income) expense, net, consisted of:

	($ in millions)			
	Three Months Ended June 30		Six Months Ended June 30	
	1993	1992	1993	1992
Interest income	$(33.5)	$(32.8)	$(68.2)	$(67.2)
Interest expense	21.8	16.6	41.3	29.5
Exchange losses	11.6	8.1	25.6	15.9
Minority interests	12.0	8.2	18.3	11.7
Other income, net	(22.5)	(17.3)	(50.5)	(30.6)
	$(10.6)	$(17.2)	$(33.5)	$(40.7)

Minority interests include third parties' share of exchange gains and losses arising from translation of the financial statements into U.S. dollars.

On June 30, 1993, the Company sold its Calgon Water Management business for $307.5 million to English China Clays plc. This divestiture resulted in a pretax gain of $148.8 million that was largely offset by a $78.8 million provision for environmental costs and a $60.0 million provision for the funding of The Merck Company Foundation. The sale of this business did not have a significant impact on the Company's financial position and will not significantly impact ongoing results of operations.

Interest paid for the six-month period ended June 30, 1993 and 1992 was $43.0 million and $27.4 million, respectively.

7. The restructuring charge and the gain on sale of Calgon Water Management include net charges of $326.5 million recorded pursuant to SFAS 88, "Employers' Accounting for Settlements and Curtailments of Defined Benefit Pension Plans and for Termination Benefits." The projected benefit obligations (net of plan assets) of the affected pension plans increased by $182.9 million after accounting for lump-sum benefit settlements made through June 30, 1993.

8. In May 1993 the Company contributed $250.0 million to a qualified postretirement benefit plan trust.

9. Income taxes paid for the six-month period ended June 30, 1993 and 1992 were $396.8 million and $503.6 million, respectively.

10. On July 28, 1993, the Company announced that it signed a definitive merger agreement with Medco Containment Services, Inc. ("Medco"), an information-based prescription drug management firm. Pursuant to the agreement, which is subject to antitrust clearance and approval by Medco shareholders, the Company will acquire all the outstanding shares of Medco for approximately $6.0 billion. The Company plans to issue common stock for approximately 60 percent of the acquisition price and finance the remaining 40 percent with debt. Medco had sales and net income of $1.8 billion and $102.5 millon, respectively, for the fiscal year ended June 30, 1992.

11. Legal proceedings to which the Company is a party are discussed in Item 3, Legal Proceedings, in the Annual Report on Form 10-K. There were no material developments in the three-month period ended June 30, 1993.

MANAGEMENT'S ANALYSIS OF INTERIM FINANCIAL INFORMATION

As previously announced, the Company is undertaking efforts to accelerate the streamlining and restructuring of its operations worldwide. These actions are designed to more aggressively pursue productivity and cost containment programs, streamline the organization and increase overall profitability to assure the continued strength and competitiveness of the Company in the years to come. As a result of these efforts the Company recorded a nonrecurring pretax restructuring charge of $775.0 million, or $.46 per share (after-tax), in the second quarter of 1993.

Including the effect of this restructuring charge, earnings per share were $.15 and net income was $172.6 million for the second quarter of 1993. Excluding the restructuring charge, earnings per share of $.61 and net income of $693.6 million were up 9 and 8 percent, respectively, from the same period last year. Sales for the quarter were $2.6 billion, up 8 percent from the same period last year.

The restructuring charge is the sum of two distinct programs -- one near-term and the other longer term. On March 23, the Company announced its near-term goal of reducing its work force by 1,000 people worldwide through an early retirement program in the U.S. and appropriate programs elsewhere. The Company has exceeded this goal with a reduction in work force of approximately 2,100 positions at a cost of $450.0 million. These reductions will be substantially completed by the end of 1993. The Company expects that a substantial number of these positions will be permanently eliminated.

In a longer term initiative, the Company plans to consolidate and streamline manufacturing facilities and distribution centers at a cost of an additional $325.0 million. This action will further reduce the work force, primarily outside the United States over the next several years, starting in 1994.

Both near-term and longer-term work force reduction efforts will ultimately reduce employment costs by more than $140.0 million annually. The Company also anticipates additional facility-related savings. The streamlined organizational structure will provide flexibility to the Company and allow it to effectively respond to ongoing changes in the health-care industry. These streamlining and restructuring efforts will not significantly affect the Company's liquidity or capital resources.

For the first six months, earnings per share were $.69 and net income was $786.3 million including the effect of the restructuring charge recorded in 1993. Excluding the effect of the restructuring charge and the cumulative effect of 1992 accounting changes, earnings per share of $1.15 and net income of $1,307.3 million were up 10 and 9 percent, respectively, from the first half of 1992. Sales rose 8 percent to $5.0 billion.

Sales growth for the first half was led by newer products. Both domestic and international operations reported solid unit volume gains. Exchange reduced second quarter sales growth by 1 percentage point compared to a 3 percentage point reduction in the first quarter of 1993. For the second quarter of 1993, excluding exchange, sales were up 9 percent. Price increases had virtually no effect on sales growth.

Sales outside the United States accounted for 44 percent of first half 1993 sales, compared with 46 percent for the same period last year.

MANAGEMENT'S ANALYSIS OF INTERIM FINANCIAL INFORMATION (continued)

Income growth for the first six months, excluding the effect of the restructuring charge, resulted from strong unit volume gains, better product mix, cost controls and productivity improvements, and a lower tax rate. The unfavorable effect from exchange, combined with the net impact of inflation, reduced first half earnings.

In the human and animal health products segment of Merck's business, results for the six months reflected strong sales gains by 'Vasotec', 'Vaseretic', 'Prinivil', 'Zocor', 'Pepcid', 'Prilosec' and ivermectin. Vaccine sales were also strong in the first half. 'Proscar', which was introduced in 1992, contributed to the sales increase.

'Proscar' has been introduced in 36 countries, including the United States, and has received medical clearance in 6 other countries. 'Proscar' is a significant medical advance in the treatment of symptomatic benign prostate enlargement -- a common condition which affects the majority of men over the age of 50. The Company is continuing an extensive medical and consumer education program to heighten awareness of the disease, improve understanding of its natural history and communicate the benefits of treatment with 'Proscar' which suggest an arrest in the disease process.

'Vasotec', Merck's angiotensin converting enzyme (ACE) inhibitor for reducing high blood pressure and treating all degrees of symptomatic heart failure, is being sold in all major markets and continues to be the leading branded product in the worldwide cardiovascular market. Earlier this year, a Food and Drug Administration (F.D.A.) Advisory Committee recommended the use of 'Vasotec' to delay the onset of symptomatic heart failure and decrease the need for related hospitalizations in asymptomatic patients with left ventricular dysfunction.

'Vaseretic', a combination of 'Vasotec' and hydrochlorothiazide for the treatment of high blood pressure, and 'Prinivil', Merck's second ACE inhibitor for reducing high blood pressure, continue to have strong growth. In June of 1993, Merck received U.S. regulatory approval to market 'Prinivil' as adjunctive therapy for congestive heart failure.

Merck's cholesterol-lowering agents hold over 40 percent of the worldwide cholesterol-lowering market. 'Zocor' continued to have strong sales growth. Unit sales for 'Mevacor', however, were down due to government cost control actions primarily in Germany, strong competition in the United States and the slowing of growth in the cholesterol-lowering market, particularly in the United States. Approximately three quarters of the people who have cholesterol levels in the recommended treatment range are untreated, and Merck is undertaking strategic initiatives to increase the appropriate usage of 'Mevacor' and 'Zocor'.

'Pepcid', an H_2-receptor antagonist for treatment of duodenal and gastric ulcers and gastroesophageal reflux disease (GERD) continues to grow rapidly in the United States and maintains its market share against strong competition abroad.

'Prilosec', which is the first drug to inhibit the enzyme that releases acid into the stomach, continues to show strong growth. It is indicated for first-line therapy for short-term treatment of active duodenal ulcers and GERD and other severe and poorly responsive gastrointestinal diseases.

'Recombivax HB' for the prevention of hepatitis B led vaccine sales due in large part to two actions. U.S. government guidelines have directed employers to make the hepatitis B vaccine available to workers in high-exposure jobs, and the Centers for Disease Control and the American Academy of Pediatrics have recommended that all infants be routinely vaccinated against hepatitis B at birth.

Ivermectin, Merck's broad-spectrum antiparasitic, which is the world's leading animal health product, continues to grow.

Unit sales declined for a group of longer-established human and animal health products due to competition.

On June 30, 1993, the Company sold its Calgon Water Management business for $307.5 million to English China Clays plc. This divestiture resulted in a pretax gain of $148.8 million that was largely offset by a $78.8 million provision for environmental costs and a $60.0 million provision for the funding of The Merck Company Foundation. The sale of this business did not have a significant impact on the Company's financial position and will not significantly impact ongoing results of operations.

On July 28, 1993, the Company announced that it signed a definitive merger agreement with Medco Containment Services, Inc. ("Medco"), an information-based prescription drug management firm. Pursuant to the agreement, which is subject to antitrust clearance and approval by Medco shareholders, the Company will acquire all the outstanding shares of Medco for approximately $6.0 billion. The Company plans to issue common stock for approximately 60 percent of the acquisition price and finance the remaining 40 percent with debt. Medco had sales and net income of $1.8 billion and $102.5 millon, respectively, for the fiscal year ended June 30, 1992.

In August 1993, deficit reduction legislation was enacted that will increase the Company's effective tax rates.

Part II - Other Information

Item 4. Submission of Matters to a Vote of Security Holders

The following matters were voted upon at the Annual Meeting of Stockholders held on April 27, 1993, and received the votes set forth below:

1. Each of the following persons nominated was elected to serve as director and received the number of votes set opposite his name:

	For	Withheld
Lawrence A. Bossidy	939,312,371	5,504,289
William N. Kelley, M.D.	938,678,661	6,137,999
Sir Derek Birkin	938,643,939	6,172,721
H. Brewster Atwater, Jr.	939,161,354	5,655,306
Richard J. Markham	939,381,399	5,435,261
Dennis Weatherstone	939,293,759	5,522,901

2. A proposal to ratify the appointment of independent pubic accountants received 939,336,211 votes for and 2,232,356 votes against, with 3,248,093 abstentions.

3. A stockholder proposal concerning executive compensation received 37,442,744 votes for and 688,180,214 votes against, with 19,862,723 abstentions and 199,330,979 broker non-votes.

4. A stockholder proposal concerning confidentiality of proxy voting received 279,738,034 votes for and 454,183,037 votes against, with 11,559,096 abstentions and 199,336,493 broker non-votes.

5. A stockholder proposal concerning the annual election of directors received 218,908,366 votes for and 515,307,418 votes against, with 11,229,742 abstentions and 199,371,134 broker non-votes.

Item 6. Exhibits and Reports on Form 8-K

(a) Exhibits

Number	Description	Method of Filing
11	Computation of Earnings Per Common Share	Filed with this document
12	Computation of Ratios of Earnings to Fixed Charges	Filed with this document

(b) Reports on Form 8-K

During the three-month period ending June 30, 1993, no current reports on Form 8-K were filed.

Signatures

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.

MERCK & CO., INC.

Date: August 10, 1993

/s/ Mary M. McDonald
Mary M. McDonald
Senior Vice President and General Counsel

Date: August 10, 1993

/s/ Judy C. Lewent
Judy C. Lewent
Senior Vice President, Chief Financial Officer and Controller

Exhibit 11

MERCK & CO., INC. AND SUBSIDIARIES

Computation of Earnings Per Common Share

(In millions except per share amounts)

	Three Months Ended June 30		Six Months Ended June 30	
	1993	1992	1993	1992
Net Income:				
Income Before Cumulative Effect of Accounting Changes	$ 172.6	$ 643.7	$ 786.3	$1,202.7
Cumulative Effect of Accounting Changes	-	-	-	(462.4)
Net Income	$ 172.6	$ 643.7	$ 786.3	$ 740.3
Earnings Per Share (As Reported):				
Weighted Average Shares Outstanding	1,138.6	1,156.0	1,140.7	1,157.4
Earnings Per Share:				
Before Cumulative Effect of Accounting Changes	$.15	$.56	$.69	$1.04
Cumulative Effect of Accounting Changes	-	-	-	(.40)
Net Income	$.15	$.56	$.69	$ .64
Weighted Average Shares and Share Equivalents Outstanding:				
Weighted Average Shares Outstanding	1,138.6	1,156.0	1,140.7	1,157.4
Common Share Equivalents Issuable Under Stock Option Plans	7.4	9.6	7.8	10.3
Common Shares Issuable Under Executive Incentive Plans	2.0	2.2	2.0	2.2
Weighted Average Shares and Share Equivalents Outstanding	1,148.0	1,167.8	1,150.5	1,169.9
Fully Diluted Earnings Per Share: (a)				
Before Cumulative Effect of Accounting Changes	$.15	$.55	$.68	$1.03
Cumulative Effect of Accounting Changes	-	-	-	(.40)
Net Income	$.15	$.55	$.68	$ .63

(a) This calculation is submitted in accordance with the regulations of the Securities and Exchange Commission although not required by APB Opinion No. 15 because it results in dilution of less than 3%.

Exhibit 12

MERCK & CO., INC. AND SUBSIDIARIES

Computation of Ratios of Earnings to Fixed Charges

(In millions except ratio data)

	Six Months Ended June 30, 1993	Years Ended December 31 1992	1991	1990	1989	1988
Income Before Taxes and Cumulative Effect of Accounting Changes	$1,136.3	$3,563.6	$3,166.7	$2,698.8	$2,283.0	$1,871.0
Add:						
One-third of Rents	17.8	34.0	31.1	26.5	20.0	19.3
Interest Expense (Net)	25.4	23.6	26.0	51.9	45.5	71.0
Income as Adjusted	$1,179.5	$3,621.2	$3,223.8	$2,777.2	$2,348.5	$1,961.3
Fixed Charges						
One-third of Rents	$17.8	$ 34.0	$31.1	$26.5	$20.0	$19.3
Interest Expense	41.3	72.7	68.7	69.8	53.2	76.5
Fixed Charges	$59.1	$106.7	$99.8	$96.3	$73.2	$95.8
Ratio of Earnings to Fixed Charges	20	34	32	29	32	20

For purposes of computing these ratios, "earnings" consist of income before taxes and cumulative effect of accounting changes, one-third of rents (deemed by the Company to be representative of the interest factor inherent in rent), and interest expense, net of amounts capitalized. "Fixed charges" consist of one-third of rents and interest expense as reported in the Company's consolidated financial statements.

SECURITIES & EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) January 11, 1993

MERCK & CO., Inc.
(Exact name of registrant as specified in its charter)

New Jersey
(State or other jurisdiction of incorporation)

1-3305	22-1109110
(Commission File Number)	(IRS Employer Identification No.)

One Merck Drive, PO Box 100, Whitehouse Station, NJ 08889-0100
(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code (908)423-1000

Item 5. Other Events

1. Incorporated by reference is a press release issued by the Registrant on January 11, 1993, attached as Exhibit 21, providing information which the Registrant deems of importance to security holders concerning the Registrant's announcement of the approval of up to up an additional $1 billion under the Registrant's program for purchasing shares of its common stock for its treasury.

Item 7. Financial Statements and Exhibits

(c) Exhibit

Exhibit 21 - Press release issued January 11, 1993.

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 hereunto duly authorized.

MERCK & CO., Inc.

By: /s/ Nancy V. Van Allen
Nancy V. Van Allen
Assistant Secretary

January 20, 1993

0209S

EXHIBIT INDEX

MERCK

News Release

CONTACTS: Merck & Co., Inc.
Joan Jones, Press Contact
Whitehouse Station, NJ
Office -- (908) 423-6550
Home -- (908) 730-7582

David Halter, Investor Contact
Rahway, NJ -- (908) 594-6883

FOR IMMEDIATE RELEASE

WHITEHOUSE STATION, NJ., January 11, 1993 -- The Board of Directors of Merck & Co., Inc. today approved purchases over time of up to an additional $1 billion under the Company's program for purchasing shares of its common stock for its treasury. Under prior approvals during the period 1985 through 1992, the Company spent $3.7 billion to acquire 196 million shares of its stock on the open market, including 22 million shares acquired under the February 1991 $1 billion program which was recently completed. Merck currently has approximately 1,145 million shares outstanding.

These treasury stock purchases will be made on the open market in block transactions, and in privately negotiated transactions. All purchases will be made through Goldman, Sachs & Co. as agent. Purchases may be suspended from time to time or discontinued. Shares acquired will be available for use under the Company's employee benefit programs and for other general corporate purposes.

Merck & Co., Inc. is a worldwide research-intensive health products company that discovers, develops, produces and markets human and animal health products and specialty chemicals.

# # #

SECURITIES & EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) February 17, 1993

MERCK & CO., Inc.
(Exact name of registrant as specified in its charter)

New Jersey
(State or other jurisdiction of incorporation)

1-3305	22-1109110
(Commission File Number)	(IRS Employer Identification No.)

One Merck Drive, PO Box 100, Whitehouse Station, NJ 08889-0100
(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code (908)423-1000

Item 5. Other Events

1. Incorporated by reference is a press release issued by the Registrant on February 17, 1993, attached as Exhibit 21, providing information which the Registrant deems of importance to security holders concerning the Registrant's announcement of its intention to sell its Calgon Water Management Division. The decision to sell reflects the Registrant's intention to focus its management and financial resources more fully on its core health-care business.

Item 7. Financial Statements and Exhibits

(c) Exhibit

Exhibit 21 - Press release issued February 17, 1993.

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 hereunto duly authorized.

MERCK & CO., Inc.

By: /s/ Nancy V. Van Allen
Nancy V. Van Allen
Assistant Secretary

February 24, 1993

0209S

EXHIBIT INDEX

Exhibit 21

MERCK

News Release

PRESS CONTACTS: **John Doorley**
Office: (908) 423-4081
Home: (908) 232-2052

Kenneth Keen
Office: (412) 777-8603
Home: (908) 246-4387

INVESTOR CONTACT: **David E. Halter**
Office: (908) 423-6883

FOR IMMEDIATE RELEASE

Whitehouse Station, NJ February 17, 1993 -- Merck & Co., Inc. announced today its intention to sell its Calgon Water Management Division. The decision was made despite the fact that the operating performance of Calgon has been and continues to be excellent. Merck said the decision reflects the Company's intention to focus its management and financial resources more fully on its core health-care business.

Over the coming days, Merck and J.P. Morgan Securities, which is assisting Merck in the sale, will contact a limited number of prospective buyers and begin a process which will lead to negotiations and the eventual sale of the business. Merck anticipates that this process will extend over the next several months. Merck will be seeking a buyer whose strategic interest will be to focus on the continuing growth and success of Calgon's business.

Calgon is a leading water treatment and specialty chemicals business, headquartered in Pittsburgh, Pennsylvania, with 1,300 employees and annual sales of $225 million. The company was founded in 1918 and has been part of Merck since its acquisition in 1968.

- more -

Merck & Co., Inc., the world's largest prescription drug company, is headquartered in Whitehouse Station, New Jersey. Last year, it invested over $1.1 billion in pharmaceutical research and development.

# # #

SECURITIES & EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) March 23, 1993

MERCK & CO., Inc.
(Exact name of registrant as specified in its charter)

New Jersey
(State or other jurisdiction of incorporation)

1-3305	22-1109110
(Commission File Number)	(IRS Employer Identification No.)

One Merck Drive, PO Box 100, Whitehouse Station, NJ 08889-0100
(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code (908)423-1000

Item 5. Other Events

1. Incorporated by reference is a press release issued by the Registrant on March 23, 1993, attached as Exhibit 21, providing information which the Registrant deems of importance to security holders concerning the Registrant's announcement of its anticipation that there will be a moderation in 1993 earnings growth, beginning in the first quarter of 1993. First half 1993 earnings growth will be particularly affected. Registrant further announced its intent to offer a retirement incentive in the United States and to implement appropriate programs elsewhere, all expected to reduce worldwide employment by 1,000 people in 1993.

Item 7. Financial Statements and Exhibits

(c) Exhibit

Exhibit 21 - Press release issued March 23, 1993.

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 hereunto duly authorized.

MERCK & CO., Inc.

By: /s/ Nancy V. Van Allen
Nancy V. Van Allen
Assistant Secretary

March 26, 1993

0209S

EXHIBIT INDEX

Exhibit 21

MERCK

News Release

CONTACT: MERCK & CO., INC.
John Doorley
(908)423-4081 (office)
(908)232-2052 (home)

FOR IMMEDIATE RELEASE

WHITEHOUSE STATION, N.J., March 23, 1993 -- Merck & Co., Inc. stated today that 1993 earnings growth will be affected by the increasingly turbulent, competitive environment in the United States, health care cost-containment measures worldwide and the unfavorable effects of foreign currencies. It is anticipated there will be a moderation in 1993 earnings growth. This moderation will be seen beginning in the first quarter of 1993. First half 1993 earnings growth will be particularly affected.

The Company has for some time been pursuing strategic marketing initiatives to assure continued strong sales volume growth. It has as well been aggressively pursuing programs of cost control, productivity improvement and organizational changes to prepare for the reality of the 1990s. These actions, together with the continuing reconfiguration of marketing and manufacturing operations, have resulted in reduced worldwide employment growth while sales have increased significantly.

-more-

To position the Company optimally for the remainder of the 1990s, management has determined to continue its workforce streamlining efforts. The Company announced today its intent to offer a retirement incentive in the United States and to implement appropriate programs elsewhere, all expected to reduce worldwide employment by 1,000 people in 1993. The cost of these programs will result in an extraordinary charge to the earnings of a subsequent quarter when the amounts are determinable.

The Company noted it has continued to invest heavily in research and development and that, even at expected levels of earnings growth in 1993, Merck remains a strong and competitive company. The steps the Company has taken and will be taking are designed to assure continued strength and competitiveness in the years to come.

Merck & Co., Inc. is a worldwide, research-intensive company that discovers, develops, manufactures and markets human and animal health products and specialty chemicals. The Company has eight major research centers and manufacturing facilities in 17 countries.

# # #

SECURITIES & EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of
the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported) July 28, 1993

MERCK & CO., Inc.

(Exact name of registrant as specified in its charter)

New Jersey

(State or other jurisdiction of incorporation)

1-3305	22-1109110
(Commission File Number)	(IRS Employer Identification No.)

One Merck Drive, PO Box 100, Whitehouse Station, NJ 08889-0100

(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code (908)423-1000

Item 5. Other Events

1. Incorporated by reference is a press release issued by the Registrant on July 28, 1993, attached as Exhibit 20, providing information which the Registrant deems of importance to security holders concerning the Registrant's announcement, ng with Medco Containment Services, Inc., of the signing of efinitive merger agreement involving consideration of ap.oximately $6.0 billion in stock and cash for currently outstanding Medco shares. The acquisition is subject to Hart-Scott-Rodino clearance, approval by Medco shareholders and certain other conditions. The transaction is expected to be completed in the fourth quarter.

Item 7. Financial Statements and Exhibits

(c) Exhibit

Exhibit 20 - Press release issued July 28, 1993.

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 hereunto duly authorized.

MERCK & CO., Inc.

By: /s/ Nancy V. Van Allen
Nancy V. Van Allen
Assistant Secretary

August 3, 1993

0209S

EXHIBIT INDEX

Exhibit Number	Description
20	Press release issued July 28, 1993.

FOR IMMEDIATE RELEASE

For Merck
Press Contact: John Doorley
908/423-4081 (office)
908/232-2052 (home)
Investor Contact: Dave Halter
908/423-6883

For Medco
Contact: James Manning
201/358-5830

MERCK AND MEDCO TO MERGE IN $6.0 BILLION TRANSACTION

Two Industry Leaders To Build First Coordinated Pharmaceutical Care Company; Will Help Cut America's Healthcare Costs And Improve Quality of Patient Care

Whitehouse Station and Montvale, NJ, July 28, 1993 -- Merck & Co., Inc. (NYSE: MRK), the world's largest pharmaceutical company, and Medco Containment Services, Inc. (NASDAQ: MCCS), a leader in information-based prescription drug management, announced today that they have signed a definitive merger agreement involving consideration of approximately $6.0 billion in stock and cash for currently outstanding Medco shares.

Merck and Medco said they will jointly create America's first coordinated pharmaceutical care company. Both companies believe America needs a managed approach to pharmaceutical care to reduce healthcare costs while improving the quality of patient care.

"This is an aggressive but carefully considered strategic move to keep Merck close to patients and customers in a rapidly changing and highly competitive healthcare market. Merck will become an even more cost-effective provider of superior patient care, while continuing as the premier developer of innovative pharmaceutical products," said P. Roy Vagelos, M.D., chairman and chief executive officer of Merck. "This transaction is the culmination of an intensive, year-long strategic review that led us to identify and approach Medco as the ideal partner for Merck. Our Board and management team are united in the belief that we must take bold action now to become a leader in the emerging managed care era," Vagelos said.

"Merck shares our commitment to delivering superb healthcare at an affordable cost by building on the techniques pioneered by Medco. Joining forces will expand our capabilities in assessing clinical needs, managing utilization and researching medical outcomes, all of which will enhance our ability to deliver high-quality drug therapies and cost-effective healthcare coverage," said Martin J. Wygod, chairman of Medco, who will continue to lead Medco after the merger. "Together, we will develop the next generation of pharmaceutical benefit plan designs to continue to deliver savings for our customers."

"Despite the commitment to excellence of all health professionals, the current system of pharmaceutical care is largely uncoordinated and unmanaged. Unfortunately, this often results in less than optimal prescribing and dispensing of medicines, poor patient compliance with treatment regimens, overmedication, millions of wasted dollars and, most important, people who don't get well," said Vagelos. "Effective management of pharmaceutical care improves the quality of life, reduces the cost of drug therapy, and creates major savings throughout the healthcare system by avoiding costly hospitalization, surgery and lost days at work. The vision of coordinated pharmaceutical care shared by Merck and Medco is consistent with the goals of the Clinton Administration. Regardless of how healthcare reform evolves, we believe this innovative private-sector solution is a major step forward in addressing important healthcare issues."

The definitive agreement, unanimously approved yesterday by both Boards of Directors, structures the transaction as a cash-election merger. Medco shareholders may elect to receive either $39.00 in cash or 1.21401 Merck shares for each Medco share, provided that in the aggregate 60% of Medco shares are converted into Merck shares and the other 40% are converted into cash. Medco shareholder elections will be adjusted as necessary to achieve this allocation. The transaction is conditioned on being a tax-free reorganization, and up to an additional 20% of the Medco shares will be exchanged for Merck shares at the 1.21401 exchange ratio rather than cash to the extent necessary to achieve tax-free treatment.

Based on yesterday's closing price of $32.125 for Merck shares, the aggregate consideration in the transaction is approximately $6.0 billion for currently outstanding Medco shares. Merck has 1.139 billion shares and Medco has 155 million shares outstanding.

Wygod is expected to join the Merck Board of Directors upon the closing of the transaction. He will elect to receive Merck shares for his Medco shares. He will also invest approximately $32 million in Merck shares and will hold these Merck shares as a long-term investment. In addition, two other Medco senior executives will also elect to receive Merck shares for their Medco shares. They will also invest in Merck shares and hold them as a long-term investment.

Medco has granted Merck an option to purchase 30 million Medco shares at $39.00 per share and has agreed to pay certain fees to Merck if certain events occur.

"Coordinated pharmaceutical care links payors, patients, doctors, pharmacists, other healthcare providers, and pharmaceutical companies to assure the best use of medicines for the best patient health at the best price," said Wygod. "The combination of our two companies will allow us to further integrate pharmaceutical care to complete the cycle from discovering drugs, to diagnosing and prescribing, to educating patients, to dispensing medicines and monitoring utilization, through measuring outcomes and initiating new research."

Medco will operate after the merger as a subsidiary of Merck. Although the companies see many potential synergies to enhance both Medco and Merck's existing businesses, Medco will keep its name, continue to be run by its existing senior management team and remain headquartered in Montvale. Merck's human health marketing group will continue to operate in its present form and will provide enhanced services to its customer base.

Merck and Medco said they will provide the most medically appropriate and cost-effective medicines -- patented, generic or over-the-counter -- regardless of manufacturer. The companies will work with all pharmaceutical companies to meet customer needs. Medco will continue to use an independent panel of physicians, pharmacists and healthcare educators to make objective product recommendations for its benefit programs. Both companies are committed to enhancing Medco's proven ability to save money for its customers while assuring quality care for patients.

Merck and Medco will assure convenient access to retail pharmacies through Medco benefit programs. Medco currently works with approximately 90% of American pharmacies. The community pharmacist will be an increasingly important partner with Medco in achieving the cost-containment objectives of managed plans and will share in the savings resulting from coordinated pharmaceutical care.

The acquisition is subject to Hart-Scott-Rodino clearance, approval by Medco shareholders and certain other conditions. Merck intends to finance the acquisition by issuing new equity and through debt financing with commercial paper and medium-term notes. The transaction is expected to be completed in the fourth quarter.

Merck was advised in the transaction by Morgan Stanley & Co. Incorporated and Kidder, Peabody & Co. Incorporated provided a fairness opinion to Medco.

Medco had calendar 1992 revenues of $2.2 billion. Although best known as a leader in mail-service prescription drugs, Medco has had a major impact in influencing both the choice and utilization of drugs through its managed care programs, relying on its integrated retail and mail pharmacy networks. Medco-managed programs are provided to sponsors of drug benefit plans covering more than 33 million Americans. Medco currently manages approximately 95 million prescriptions a year, representing $4 billion in drug expenditures. Its clients include more than 100 of the Fortune 500 companies, 34 federal and state benefit plans, 132 union groups and 58 Blue Cross/Blue Shield and insurance companies.

Merck had 1992 revenues of $9.7 billion. Merck has a century-long tradition of clinically based service to patients; unmatched credibility as a provider of medical information; long-standing relationships with physicians, pharmacists and other healthcare providers; and world leadership in discovering and developing innovative medicines. Merck currently spends $1.2 billion a year on research and development and has a strong pipeline of innovative new medicines.

This announcement does not constitute an offering of Merck common stock, which will be made only pursuant to a registration statement.

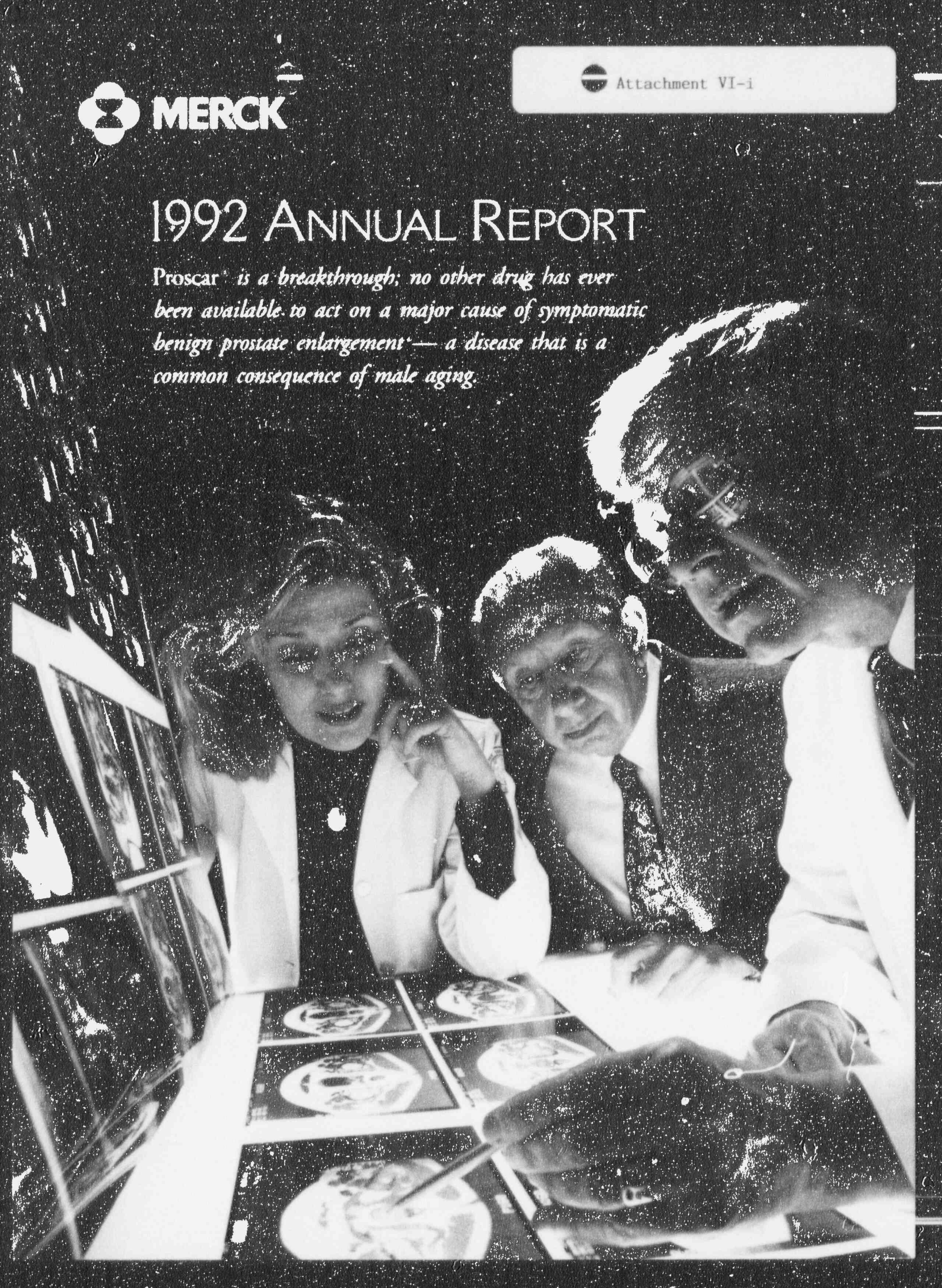
# # #

Attachment VI-i

MERCK

1992 ANNUAL REPORT

Proscar® is a breakthrough; no other drug has ever been available to act on a major cause of symptomatic benign prostate enlargement — a disease that is a common consequence of male aging.



PROFILE OF MERCK'S GROWTH

INTERNAL GROWTH

GROWTH PRODUCTS

PRODUCT	DISEASE CONDITION
Chibroxin	Certain Forms of Conjunctivitis
Ivermectin	Animal Parasites
Mevacor	Elevated Cholesterol
Noroxin®	Urinary Tract Infections
PedvaxHIB	Haemophilus influenzae type B
Pepcid®	Gastrointestinal Diseases
Plendil	High Blood Pressure
Prilosec®	Gastrointestinal Diseases

PRODUCT	DISEASE CONDITION
Primaxin®	Bacterial Infections
Prinivil®	High Blood Pressure
Prinzide	High Blood Pressure
Proscar	Symptomatic Benign Prostate Enlargement
Recombivax HB®	Hepatitis B
Vaseretic®	High Blood Pressure
Vasotec®	High Blood Pressure and Symptomatic Heart Failure
Zocor	Elevated Cholesterol

MATURE PRODUCTS

PRODUCT	DISEASE CONDITION
Aldomet	High Blood Pressure
Clinoril	Arthritis
Dolobid	Arthritis and Pain
Indocin®	Arthritis
Mefoxin	Bacterial Infections
Moduretic	High Blood Pressure
M-M-R II®	Measles, Mumps and Rubella
Sinemet and *Sinemet CR*®	Parkinson's Disease
Timoptic®	Glaucoma

®1992 annual sales greater than $100 million

Merck's growth during the 1990's will be fueled by growth products, by mature products that are still adding considerably to our revenue and by joint ventures, licensing arrangements and product acquisitions.

We also have an exceptionally strong research pipeline with a number of products in late-phase clinical studies.

EXTERNAL GROWTH

STRATEGIC ALLIANCES

JOINT VENTURES

AB Astra	Prescription Products
Du Pont	Prescription Products
Johnson & Johnson	Self-Medication Products
Mérieux/Connaught	Vaccines
Sigma Tau	Viral Disease Research

IN-LICENSING/PRODUCT ACQUISITIONS

Kyorin	*Noroxin*
Yamanouchi	*Pepcid*
Du Pont	losartan potassium
ICI	*Mylanta* Product Line
Istituto Gentili	*Fosamax*

Products in Late Stage of Development

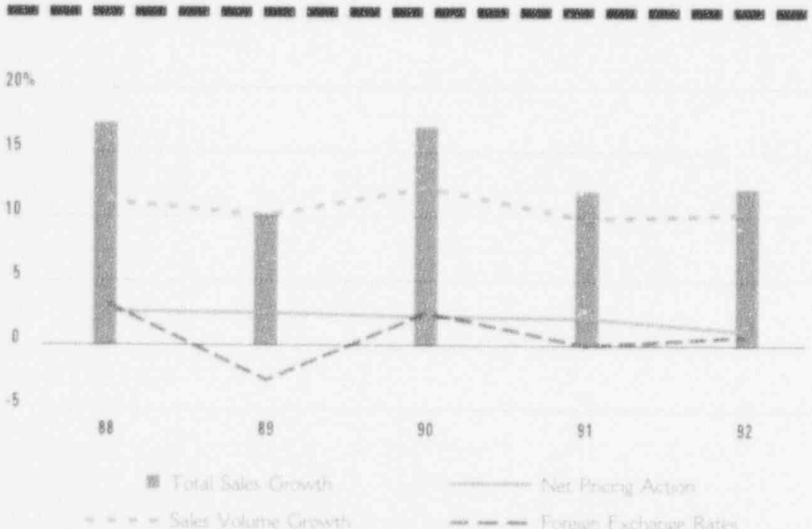
Product	Disease Condition
Fosamax	Osteoporosis, Hypercalcemia of Malignancy, Paget's Disease
losartan potassium	High Blood Pressure, Heart Failure
MK-476	Asthma
MK-591	Asthma, Inflammatory Bowel Disease
Roxiam	Acute and Chronic Schizophrenia
Timoptic-XE	Glaucoma
Trusopt	Glaucoma
Vaqta	Hepatitis A
Varivax	Chickenpox
MK-324	Flea and Tick Control
MK-244	Crop Protection
famotidine	Gastrointestinal Self-Medication Use

- *Submitted to the Food and Drug Administration for marketing clearance*
- *Now in Phase III clinical studies in expanded patient populations*
- *Now in Phase IIb multicenter studies to determine dose range*
- *Now in or about to enter large-scale trials*

. . . And we intend to grow predominantly through sales volume as we have in the last five years, keeping our price increases within the rate of inflation while adding to our products and services through breakthrough therapies with proven cost-effective benefits.*

** This policy is based upon a weighted average across the product line, assuming stable economic conditions and government policies supportive of innovation.*

Components of Sales Growth



Contents

On the Cover: Antonio Ruggieri (c.) took part in Phase III clinical trials of Proscar, *Merck's new product for symptomatic benign prostate enlargement, conducted by Julianne Imperato-McGinley, M.D., (l.) and E. Darracott Vaughan Jr., M.D., (r.) of New York Hospital. For further details, turn to page 6.*

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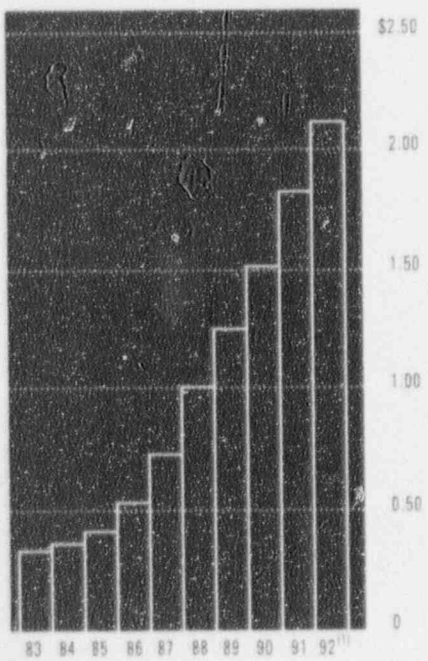
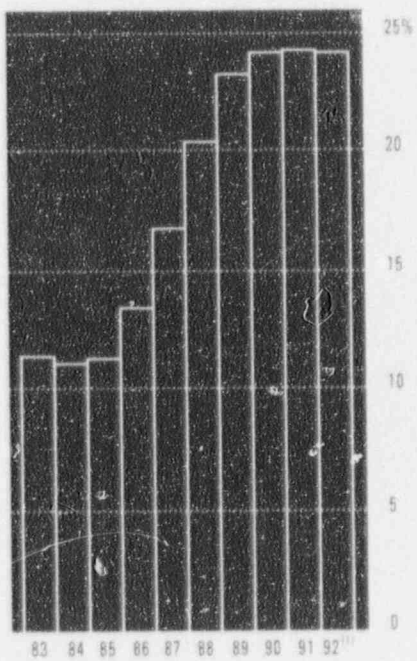
Taxes on income[1]	1,117.0	1,045.0	917.6			
Net income[1]	2,446.6	2,121.7	1,781.2	+15%	+19%	+19%
Common stock[2]:						
Earnings per share[1]	$2.12	$1.83	$1.52	+16%	+20%	+21%
Dividends paid per share	$.92	$.77	$.63⅔	+19%	+21%	+16%
Research and development expenses	1,111.6	987.8	854.0			
Capital additions:						
New projects authorized	1,039.7	841.2	1,000.2			
Total expenditures	1,066.6	1,041.5	670.8			
Total assets	11,086.0	9,498.5	8,029.8			
Net income as a % of average total assets[1]	24.1%	24.2%	24.1%			
Average number of shares of common stock outstanding[2]	1,153.5	1,159.9	1,172.1			

EARNINGS PER SHARE[2]



NET INCOME AS A % OF AVERAGE TOTAL ASSETS



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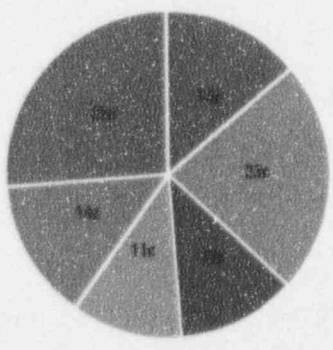

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To Our Stockholders

As health-care systems worldwide struggle to deliver quality care at affordable prices, we believe that Merck's greatest contribution to society is discovering effective medicines for the most serious and costly diseases of our time. This is the foundation of our business success — and our defining vision.

The soundness of this vision was reinforced last year as Merck products helped more people to win the battle against disease, and, based on this medical success, 1992 was a year of strong growth and new records in sales, earnings and earnings per share.

Worldwide revenue was $9.7 billion, up 12 percent. Before the cumulative effect of adopting new accounting standards, net income was $2.4 billion, up 13 percent, and earnings per share were $2.12, up 16 percent.

Success in helping society also enabled us to keep our commitment to the owners of the Company — Merck stockholders. In 1992 the dividend was raised twice, increasing 19 percent. Merck stock was split 3-for-1 in May. A $1 billion stock purchase program, started in February 1991, was completed. In January 1993 the Board approved purchases over time of up to an additional $1 billion.

The strategies that are driving Merck's growth today were conceived in the 1980's when we became convinced that rising health-care costs, structural changes in major markets, and the need to globalize would cause fundamental changes in the pharmaceutical industry. We saw that "business as usual" would be a formula for failure, and we have, therefore, taken actions and structured our Company based on our belief that the pace of change will continue to accelerate.

While we are constantly reassessing and ready to make course corrections, our actions thus far have placed us in a strong position to seize opportunities, which, even in this changing environment, are significant.

P. Roy Vagelos, M.D., (r.), Merck Chairman and Chief Executive Officer, and Richard J. Markham, who was recently elected President, Chief Operating Officer and a Director of Merck.

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In 1992 we concentrated nearly three-quarters of our research expenditures in the United States, but our effort was increasingly global. In June we opened a new laboratory in Japan, further strengthening our presence in the world's second largest pharmaceutical marketplace.

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This year we plan to increase research spending by 11 percent to over $1.2 billion.

In marketing, as in research, innovation is the key to success. While there are major differences in markets around the world, we are pursuing a single strategic goal: to serve the changing needs of a changing customer base.

In the United States, we are focused strongly on the managed-care, hospital, government and long-term care markets. Through long-term partnerships, our objective is to demonstrate the value of working with Merck — both in serving patients' needs and in lowering health-care costs. Our customers' response has been very positive, and our share in major market segments is expanding.

In Europe and Japan, our strategy is also based on a strong customer focus. While situations differ country-to-country, we are working to help governments balance their economic and health-care goals, and still maintain the vitality of an innovative pharmaceutical industry.

Recent actions by the European Commission and in Canada, in the area of patent protection, encourage innovation and bode well for Merck's ability to continue to grow and serve these major markets.

While major developed markets will be our primary source of near-term growth, we are also expanding into Eastern Europe, Russia, the Middle East, Latin America, the Pacific Rim and China — markets with enormous populations but largely unserved by modern pharmaceuticals.

Accelerating change is also driving our decisions of how to structure our business. Internally, we are focused on increasing innovation, efficiency and speed. We have organized globally, we are "reengineering" work and aggressively pursuing productivity gains.

A good example is Merck manufacturing where the global structure is creating significant opportunities for greater efficiency, lower inventories and reducing surplus capacity.

Externally, we are increasing our access to new research, products and markets through strategic alliances. Some of these — through product acquisitions, co-promotion and in-licensing — are contributing to Merck's growth today. Others are focused on long-term growth.

Our major alliances with AB Astra, Du Pont and Johnson & Johnson made significant progress in 1992.

Searching the mysteries of disease and discovering important medicines is what Merck does best, and we have a sharp focus on this goal. At the same time, we are deeply aware of the need for health-care reform, and we are participating in the debate, for the good of society and for our shareholders.

The critical question of how to manage costs and still ensure quality care for all people transcends national boundaries and challenges virtually every country on earth.

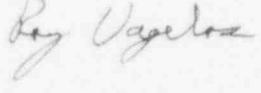
We are strongly encouraging government officials to work with companies like Merck. As participants in the health-care system, we have insights that we want to contribute to any discussion of health-care reform. What's more, we're eager to work with government leaders and health-care providers to bring about meaningful changes that improve people's lives. We must have a long-term perspective, and we must strengthen our resolve to fight disease through research and medical innovation. Merck is committed to helping cure the world's health-care ills. But to do so, we need unwavering cooperation from both inside and outside government.

In terms of future outlook, although we are pleased with 1992 results, we are acutely aware that past performance does not guarantee future success. We are, therefore, managing the Company with only one certainty — the inevitability of change. While we are committed to strict discipline in asset management and cost controls, we also know that wise risk-taking is essential to our goals.

As we pursue this exciting course, we are fortunate to have an outstanding product portfolio, exceptionally strong research, modern facilities and considerable financial strength.

Throughout the Company, we have a strong and skillful management team. In this regard, effective January 1993, based on my recommendation, the Board elected Richard J. Markham President and Chief Operating Officer. He is eminently qualified for the post, with 19 years of Merck experience, a demonstrated leader, focused on innovation, with great insight into opportunities for growth.

In addition to our other strengths around the world, we have a workforce that is second to none in talent, dedication and drive. Thanks to them, Merck was named "America's Most Admired Corporation" for the seventh consecutive year. And it is because of them that we look ahead with confidence.



P. Roy Vagelos, M.D.
Chairman and Chief Executive Officer
February 26, 1993

HEALTH-CARE REFORM

In our 1991 Annual Report to Stockholders we unveiled a set of Principles and Responsibilities to use as benchmarks in evaluating the various health-care reform proposals that were being shaped in Washington and in state capitals.

Throughout the past year we have used these principles as threshold tests while keeping in mind our core belief that any reform effort must rest on four critical "cornerstones." Namely: broadening patient access, protecting America's unmatched capability for medical innovation, rationally managing costs and maintaining the high quality of medical care.

Of the major proposals we have studied, at this time the "managed competition" model, in our view, comes closest to promising solutions to our health-care crisis.

Managed competition would rely on market mechanisms to improve cost effectiveness of health-care delivery by encouraging a more coordinated approach to health care. It should broaden access to health-care coverage for millions of working Americans by reforming the small market insurance system to spread risk among pools of employers and leverage their purchasing power. Access to health care for the poor would further increase by expanding Federal and state programs. It is anticipated that managed competition would organize the provision of care, simplify administration and reduce the excess costs in the current system. Finally, it is envisioned that we would rely on outcomes information to improve patient care and to make us all — individuals and businesses — wiser health-care consumers.

Merck supports a reform system of rational cost management that includes outcomes research, responsible individual cost sharing, appropriate managed care, medical liability reform, reduced administrative costs and reduced cost shifting. We believe such initiatives, in conjunction with increased competition and redirected incentives, will constrain costs without severely limiting our ability to innovate.

This, for Merck, is the critical test. Innovation is the long-term key to conquering disease and improving health and quality of life. It is the ultimate weapon in controlling health-care costs. And, critical for us to remember is the fact that innovation produces measurable economic benefits. Any reform model must be designed so innovation is a dynamic and integral part of the system, or the quality of health care will erode. New discoveries in therapies and products will diminish.

"We are confident that we, and the nation, can prosper in an environment that addresses reform so long as government continues to recognize that innovation is the best pathway to controlling health-care costs and providing top quality care."

The debate will be protracted and intense in the year ahead. But Merck is already well-positioned to do business in a managed competition environment, and our policies have reflected new realities. For the past three years, we have not increased our product prices on a weighted average basis beyond the Consumer Price Index. We were the first to champion a Medicaid rebate program based on best or lowest price. And, we have signed contracts with managed-care organizations encompassing more than 75 percent of our targeted managed-care market in the United States.

"It is only right that everyone has access to quality health care," Merck Chairman Roy Vagelos says, "and for this reason we welcome reform in our health-care systems. We are confident that we, and the nation, can prosper in an environment that addresses reform so long as government continues to recognize that innovation is the best pathway to controlling health-care costs and providing top quality care."

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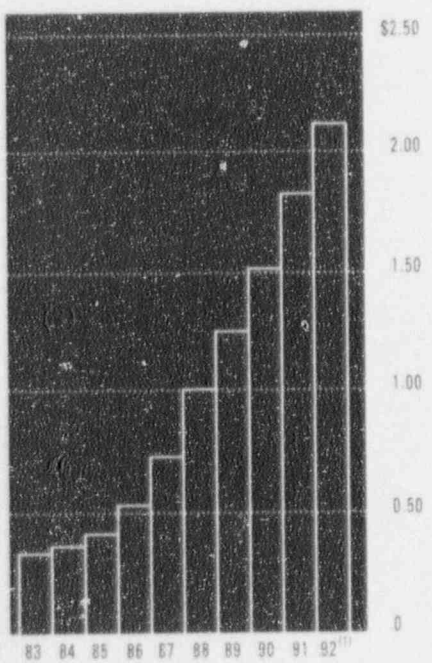

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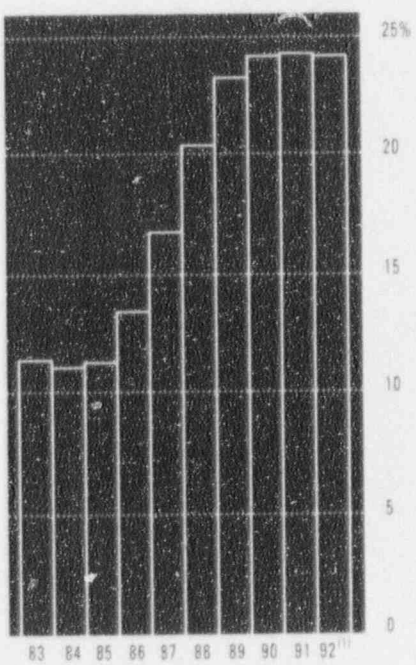

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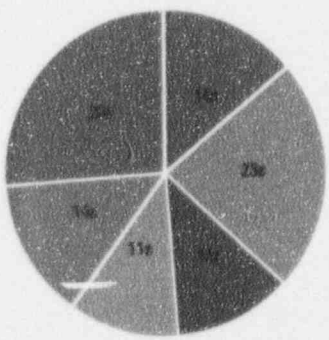

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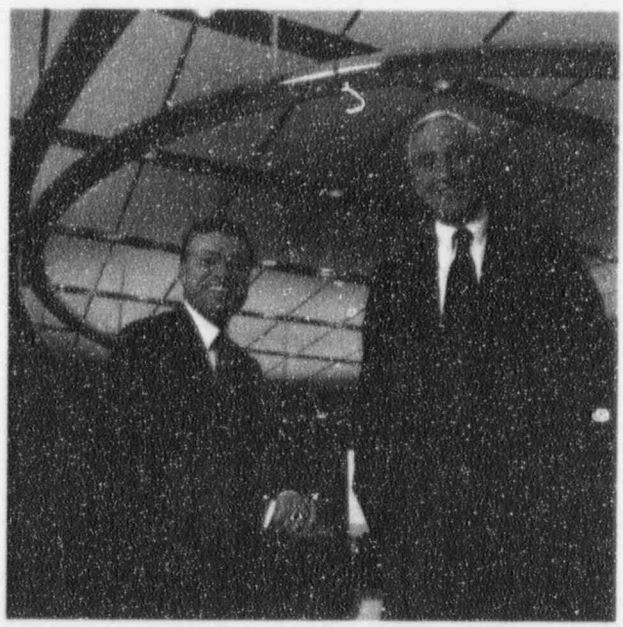

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Searching the mysteries of disease and discovering important medicines is what Merck does best, and we have a sharp focus on this goal. At the same time, we are deeply aware of the need for health-care reform, and we are participating in the debate, for the good of society and for our shareholders.

The critical question of how to manage costs and still ensure quality care for all people transcends national boundaries and challenges virtually every country on earth.

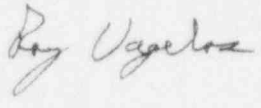
We are strongly encouraging government officials to work with companies like Merck. As participants in the health-care system, we have insights that we want to contribute to any discussion of health-care reform. What's more, we're eager to work with government leaders and health-care providers to bring about meaningful changes that improve people's lives. We must have a long-term perspective, and we must strengthen our resolve to fight disease through research and medical innovation. Merck is committed to helping cure the world's health-care ills. But to do so, we need unwavering cooperation from both inside and outside government.

In terms of future outlook, although we are pleased with 1992 results, we are acutely aware that past performance does not guarantee future success. We are, therefore, managing the Company with only one certainty — the inevitability of change. While we are committed to strict discipline in asset management and cost controls, we also know that wise risk-taking is essential to our goals.

As we pursue this exciting course, we are fortunate to have an outstanding product portfolio, exceptionally strong research, modern facilities and considerable financial strength.

Throughout the Company, we have a strong and skillful management team. In this regard, effective January 1993, based on my recommendation, the Board elected Richard J. Markham President and Chief Operating Officer. He is eminently qualified for the post, with 19 years of Merck experience, a demonstrated leader, focused on innovation, with great insight into opportunities for growth.

In addition to our other strengths around the world, we have a workforce that is second to none in talent, dedication and drive. Thanks to them, Merck was named "America's Most Admired Corporation" for the seventh consecutive year. And it is because of them that we look ahead with confidence.



P. Roy Vagelos, M.D.
Chairman and Chief Executive Officer
February 26, 1993

HEALTH-CARE REFORM

In our 1991 Annual Report to Stockholders we unveiled a set of Principles and Responsibilities to use as benchmarks in evaluating the various health-care reform proposals that were being shaped in Washington and in state capitals.

Throughout the past year we have used these principles as threshold tests while keeping in mind our core belief that any reform effort must rest on four critical "cornerstones." Namely: broadening patient access, protecting America's unmatched capability for medical innovation, rationally managing costs and maintaining the high quality of medical care.

Of the major proposals we have studied, at this time the "managed competition" model, in our view, comes closest to promising solutions to our health-care crisis.

"We are confident that we, and the nation, can prosper in an environment that addresses reform so long as government continues to recognize that innovation is the best pathway to controlling health-care costs and providing top quality care."

Managed competition would rely on market mechanisms to improve cost effectiveness of health-care delivery by encouraging a more coordinated approach to health care. It should broaden access to health-care coverage for millions of working Americans by reforming the small market insurance system to spread risk among pools of employers and leverage their purchasing power. Access to health care for the poor would further increase by expanding Federal and state programs. It is anticipated that managed competition would organize the provision of care, simplify administration and reduce the excess costs in the current system. Finally, it is envisioned that we would rely on outcomes information to improve patient care and to make us all — individuals and businesses — wiser health-care consumers.

Merck supports a reform system of rational cost management that includes outcomes research, responsible individual cost sharing, appropriate managed care, medical liability reform, reduced administrative costs and reduced cost shifting. We believe such initiatives, in conjunction with increased competition and redirected incentives, will constrain costs without severely limiting our ability to innovate.

This, for Merck, is the critical test. Innovation is the long-term key to conquering disease and improving health and quality of life. It is the ultimate weapon in controlling health-care costs. And, critical for us to remember is the fact that innovation produces measurable economic benefits. Any reform model must be designed so innovation is a dynamic and integral part of the system, or the quality of health care will erode. New discoveries in therapies and products will diminish.

The debate will be protracted and intense in the year ahead. But Merck is already well-positioned to do business in a managed competition environment, and our policies have reflected new realities. For the past three years, we have not increased our product prices on a weighted average basis beyond the Consumer Price Index. We were the first to champion a Medicaid rebate program based on best or lowest price. And, we have signed contracts with managed-care organizations encompassing more than 75 percent of our targeted managed-care market in the United States.

"It is only right that everyone has access to quality health care," Merck Chairman Roy Vagelos says, "and for this reason we welcome reform in our health-care systems. We are confident that we, and the nation, can prosper in an environment that addresses reform so long as government continues to recognize that innovation is the best pathway to controlling health-care costs and providing top quality care."

THE STORY OF *PROSCAR*®

Top: Merck scientist Sheila M. Gilbert, Ph.D., uses non-invasive magnetic resonance imaging technique to study activity of Proscar in a canine model of symptomatic benign prostate enlargement.

Top: From left, Merck scientists Jerry R. Brooks, Ph.D.; Elizabeth Stoner, M.D.; and Gary H. Rasmusson, Ph.D. received the Merck Directors' Scientific Award for their work on Proscar.

Top: John Caligiuri, who took part in clinical studies on Proscar, is framed by the molecular structure of the new medicine. He experienced a 76 percent reduction in levels of dihydrotestosterone, an underlying cause of symptomatic benign prostate enlargement.

Discovery and Development The discovery and development of *Proscar* for the treatment of symptomatic benign prostatic hyperplasia (BPH), or benign prostate enlargement, is a prime example of the long-term commitment to research that is the hallmark of the Merck Research Laboratories. BPH afflicts the majority of men over age 50. The disease, which impedes urine flow, is chronic and widespread.

In the 1960's when Merck scientists became interested in the formation and action of male hormones, they focused on the enzyme 5-alpha reductase that converts testosterone to the more potent hormone dihydrotestosterone (DHT), a major underlying cause of prostate enlargement. In 1974 Julianne Imperato-McGinley, M.D., and colleagues at Cornell Medical College, and Jean D. Wilson, M.D., and Patrick C. Walsh, M.D., at Southwestern Medical Center, reported the clinical features of 5-alpha reductase deficiency. The Cornell group noted adult males deficient in this enzyme had no acne and sparse facial and body hair, and, of particular interest, an underdeveloped prostate gland. These males also failed to develop male pattern baldness.

Above: Positive results of the studies on Proscar were reported in The New England Journal of Medicine.

Bottom left: Print materials from Merck's information program on symptomatic benign prostate enlargement directed at physicians and consumers flank a novel tablet package for Proscar that provides for easy dispensing and recycling.

Above and at right: New computer-controlled facilities at Ponders End and Cramlington plants in the United Kingdom are producing Proscar for all worldwide requirements. At Cramlington, Operator Ken Thompson uses closed circuit television to monitor tablet production in the fully automated and computer integrated facility.

Top left: Merck Human Health Division Professional Representatives Troy Hill and Suzanne Freinberg during launch meetings for Proscar.

Above: Julianne Imperato-McGinley, M.D., (L) and E. Darracott Vaughan Jr., M.D., (r.) who conducted studies of Proscar *at New York Hospital, show patient Antonio Ruggiero images of his prostate gland.*

Above left: Chart shows results of the 12-month placebo-controlled Phase III clinical trials of Proscar *and the one-year open extensions where the placebo was discontinued.*

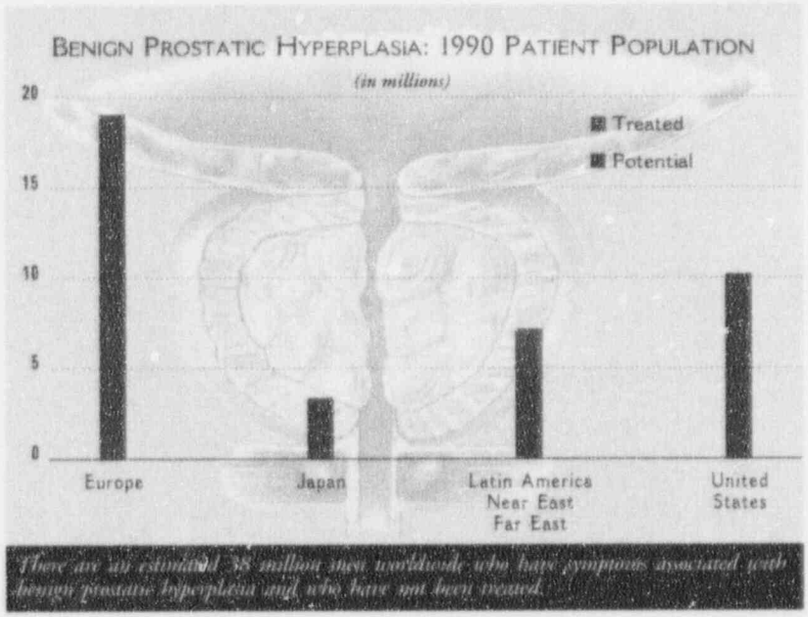
Framed in chart are Merck Sharp & Dohme Hospital Representative Elizabeth Swain, who discusses Proscar *with Malcolm Coptcoat, M.D., at Kings College Hospital in London.*

In 1976 Merck scientists intensified their efforts in the existing steroid chemistry program to search for an inhibitor of 5-alpha reductase as a therapy for BPH. In 1992, after 16 years of a discovery and development effort, *Proscar* was cleared for marketing in the United States. *Proscar* is a potent inhibitor of the 5-alpha reductase enzyme. Controlled data from 12-month studies have shown the clinical benefits of *Proscar*. These data suggest that *Proscar* halts the progression of the disease. *Proscar* is the first oral therapy that can shrink enlarged prostate glands and improve urine flow and symptoms of an enlarged prostate. *Proscar* is a breakthrough: no other drug has ever been available to act on a major cause of BPH. Clinical studies in 76 medical centers worldwide included 1,600 men. In more than half the patients, *Proscar* reduced the size of the prostate by at least 20 percent; in a significant subset of the patients, the drug increased urine flow and improved symptoms after 12 months of treatment. Over the 12-month studies, a once-daily oral dose of *Proscar* was found to rapidly reduce the levels of the hormone DHT — an underlying hormonal cause of BPH — in 95 percent of the patients, with up to a 70 percent reduction of DHT levels in 80 percent of these patients, and this reduction was maintained during a two-year follow-up.

Controlled data beyond 12 months are not yet available. However, in patients who continued treatment with *Proscar* and who completed

36 months of treatment, the reduction in prostate volume remained at a median of 25.5 percent, and increased urine flow rates and improved symptoms were also maintained. The long-term benefits of *Proscar* are now being further studied in 3,000 patients in a placebo-controlled, four-year clinical trial. Long-term effects of the drug on incidence of surgery and complications of BPH are yet to be determined.

Since male hormones have also been implicated in the development of prostate cancer, the National Cancer Institute is planning a study to examine the possible role of *Proscar* in preventing prostate cancer.



There are an estimated 38 million men worldwide who have symptoms associated with benign prostatic hyperplasia and who have not been treated.

Marketing *Proscar* has been introduced in 18 countries, including the United States, Canada and several European countries and cleared for marketing in 11 others.

Little information on the progression of untreated symptomatic benign prostate disease or its epidemiology has been available. But recent studies clearly show that the disease is a common consequence of male aging. In the United States alone there are an estimated 10 million men who have bothersome symptoms, at least half of whom are undiagnosed. Most of the 5 million patients are largely untreated but are being monitored. They are in the "watchful waiting" mode, hoping the condition does not worsen or lead to surgery. Every year some 400,000 men undergo surgery, with its potential complications, at a cost of $3 billion.

The foundation of our marketing effort is an extensive education program. We are supporting discussion of the disease by well-recognized physicians and thought leaders at universities, medical schools and teaching hospitals. In direct marketing efforts, Merck professional representatives are carrying out a comprehensive educational program with physicians, group practices and hospitals. A consumer program has been undertaken to present information on the function of the prostate and symptoms associated with prostate enlargement and to encourage men experiencing symptoms to consult their doctors.

New Manufacturing Facilities To ensure the highest product integrity and quality standards for *Proscar*, Merck constructed dedicated facilities in the United Kingdom at its Ponders End plant for the bulk active ingredient and at the Cramlington plant for formulation and tableting.

At Ponders End, the active ingredient for *Proscar* is produced in a totally captive facility which utilizes advanced processing and information systems to allow remote monitoring of the manufacturing process. This ensures the highest product quality, minimal operator intervention and maximum environmental safeguards.

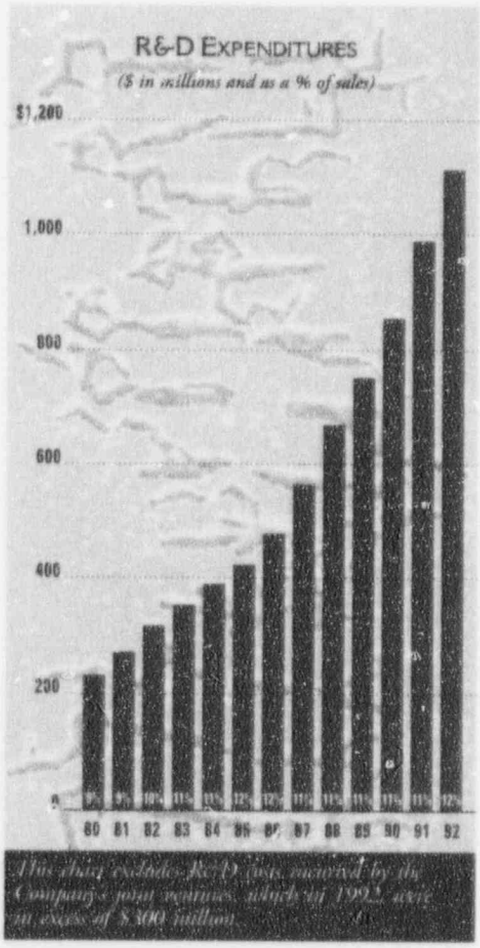
As production is initiated at Cramlington, an interim facility at Hoddesdon, England, is providing tablets to support worldwide product launches. The design for both facilities utilizes the best new technology, including a high degree of materials containment and a novel granulation/drying system to achieve high productivity and flexibility for rapid response to the needs of diverse markets. Cramlington is a model multi-product plant that incorporates computer integrated manufacturing and on-line testing throughout the production and packaging cycles.

RESEARCH

The key to Merck's long-term growth is research and development. In 1992 we spent over $1.1 billion in research. We plan to spend more than $1.2 billion in 1993, an 11 percent increase over 1992.

Merck scientists continue to discover and develop novel pharmaceuticals that improve human and animal health. Armed with the tools of modern molecular biology and working in state-of-the-art laboratories, our researchers are exploring new therapeutic areas, including chronic diseases of aging. The goal remains to design drugs that act at specific molecular targets to alter or prevent the course of disease. We are also developing new indications for our existing medicines to further strengthen the physician's armamentarium.

In 1992 new laboratories of the Tsukuba Research Institute in Japan were dedicated with our affiliate, Banyu Pharmaceutical Co., Ltd. Cancer, cardiovascular and infectious diseases will be studied at Tsukuba.



This chart excludes R&D costs incurred by the Company's joint ventures, which in 1992 were in excess of $300 million.

In the Pipeline Osteoporosis is one of the most prevalent diseases of aging. Approximately 10,000 women worldwide are participating in our studies of *Fosamax*, an oral amino bisphosphonate that inhibits bone resorption (the loss of bone). One-year data from a three-year osteoporosis treatment study indicated that *Fosamax* was generally well tolerated and that it increased bone mineral density of the spine and hip. This study has been expanded to include 2,400 women. One-year results from a separate study of osteoporosis prevention in women who recently entered menopause were positive, and 1,500 women will be involved in an expanded phase of the study. An ongoing four-year study, the largest trial of osteoporosis ever conducted, to evaluate *Fosamax* in prevention of bone fractures involves 6,000 women aged 55 to 80. *Fosamax* is licensed to Merck by the Istituto Gentili in Italy.

Losartan potassium, the first of a new class of drugs called angiotensin II receptor antagonists, is being developed for treatment of high blood pressure and heart failure, in association with our joint venture The Du Pont Merck Pharmaceutical Company. Since losartan potassium acts very specifically, it may avoid or be shown to reduce side effects experienced by some patients taking angiotensin converting enzyme (ACE) inhibitors (dry cough) or calcium channel blockers (ankle edema, headache or generally rapid heart action). Another advantage is a single dosing schedule. Phase III hypertension trials will be completed in 1993, and results thus far indicate that losartan potassium has been generally well tolerated. Phase II heart failure trials are ongoing; results so far indicate losartan potassium produces hemodynamic benefits comparable to those seen with ACE inhibitors.

Leukotrienes are regulators of the inflammation and smooth muscle contraction associated with asthma. MK-591, in Phase II trials for asthma treatment, is an inhibitor of leukotriene biosynthesis. A once-a-day 250 mg dose reduced leukotriene production by more than 90 percent as reflected in the level of leukotrienes excreted in the urine. MK-476, a potent and long-acting leukotriene D_4 (LTD_4) receptor antagonist, is in Phase II clinical trials for asthma.

Phase III trials of *Roxiam*, a selective dopamine receptor antagonist for treatment of acute and chronic schizophrenia, have been completed. *Roxiam* is licensed from AB Astra for sale in the United States. We submitted a New Drug Application (N.D.A.) early in 1993 to the Food and Drug Administration (F.D.A.).

Phase III trials of *Trusopt*, the first topical carbonic anhydrase inhibitor for the treatment of glaucoma, are nearing completion. We expect to

Top: Chuck Diellie, Ph.D., Merck Research Laboratories, carries out participation of virus during the development of a manufacturing process for Vaqta, our hepatitis A vaccine now in worldwide clinical trials.

Above: At the Tsukuba Research Institute, Japan, scientist Akira Nagamo, Ph.D., investigates potential new cholesterol-lowering compounds.

Top: Molecular structure of losartan potassium, the first of a new class of cardiovascular agents for treatment of hypertension and heart failure, is being developed jointly by Merck and The Du Pont Merck Pharmaceutical Company.

submit worldwide marketing applications in 1993. Unlike topical beta-blockers, *Trusopt* does not appear to have cardiovascular or pulmonary side effects and has no effect on visual acuity (clarity) as pilocarpine does. Since many glaucoma patients require two medications to control intraocular pressure, *Trusopt* may be an important add-on therapy. We also plan to develop *Trusopt* in combination with *Timoptic*, our existing glaucoma medication.

The reverse transcriptase enzyme of the human immunodeficiency virus (HIV-1) remains a major target of our AIDS program. In early clinical trials we noted in patients the emergence of HIV isolates resistant to our non-nucleoside reverse transcriptase inhibitor (RTI). We are conducting studies of the RTI in combination with AZT, another company's antiviral treatment for AIDS, potentially to avoid resistance and optimize activity. HIV protease, another viral enzyme, is also a target of our efforts in AIDS research.

Top right: M-M-R$_{II}$V, an experimental vaccine for the prevention of measles, mumps, rubella and chickenpox, is administered in a clinical study at Drexel Hill Pediatric Associates in Pennsylvania to Patricia Sharp.

Bottom right: Cross-section of the eye illustrates Merck's research work on glaucoma. Merck's new medicine Trusopt, *now in development, inhibits the enzyme carbonic anhydrase in the cells of the ciliary process to lower abnormally high intraocular pressure common to glaucoma.*

Above: Scientist Gerald W. Benz, D.V.M., Ph.D., Merck Animal Science Research, applies an experimental parasiticide in an early study that includes dairy and beef cattle.

In 1992 we submitted in the United States a product license for *Varivax*, our live attenuated vaccine for prevention of chickenpox. Following a preliminary review of the Product License Application for *Varivax*, the F.D.A. has requested that we provide additional information. Our goal is to offer *Varivax* in combination with our currently

Above: Scientists Anthony W. Ford-Hutchinson, Ph.D. (r.) and Robert N. Young, Ph.D. of Merck Frost Laboratories in Montreal study the molecular target of an experimental drug for asthma.

Top left: Ollie Beamer (r.) of Mt. Sinai Medical Center explains the cause of osteoporosis to Sandra Fisher who is taking part in a study of Merck's experimental drug Fosamax to treat and prevent osteoporosis.

marketed combination measles, mumps and rubella vaccine. Merck is collaborating with Connaught Laboratories to develop and market vaccines that combine antigens for hepatitis B, diphtheria, tetanus, whooping cough, polio and others in a single injection.

In 1993 we will complete Phase III studies of *Vaqta*, our highly purified vaccine for hepatitis A, a viral infection of the liver that is spread through contaminated food and water. After a single injection, *Vaqta* has been demonstrated in clinical trials to date to be highly effective in the prevention of hepatitis A. We plan to submit an application for a product license in 1993.

Phase V (Post-Marketing) Studies In 1992 *Vasotec* became the first ACE inhibitor in the United States to receive revised labelling for a broadened heart failure indication for symptomatic patients with left ventricular dysfunction, based on data from the treatment arm of a major study conducted by the National Institutes of Health. According to the revised prescribing information, "in these patients, *Vasotec* improves symptoms, increases survival and decreases the frequency of hospitalizations." This is the broadest treatment claim for any ACE inhibitor. Based on the results of the prevention arm of that study, in early 1993 an F.D.A. Advisory Committee recommended the use of *Vasotec* to delay the onset of symptomatic heart failure and decrease the need for related hospitalizations in asymptomatic patients with left ventricular dysfunction.

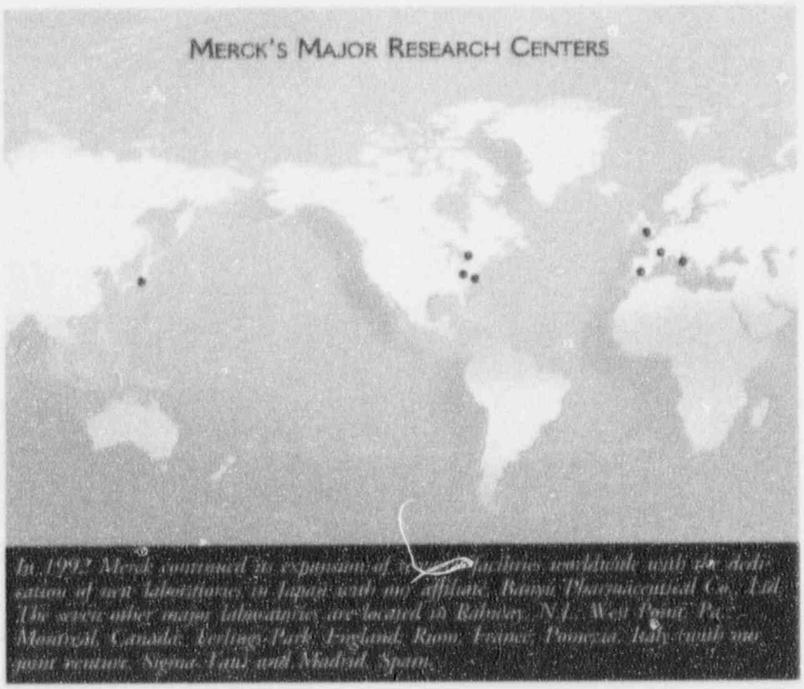
Above: Marvin Konstam, M.D., New England Medical Center Hospitals, uses a gamma camera to assess the condition of Rosario Tufano, a patient in a clinical study to evaluate the effectiveness of Vasotec in delaying overt heart failure in asymptomatic patients with left ventricular dysfunction. The camera allows the study of the ventricles, the main pumping chambers of the heart. Study results showed that Vasotec significantly delayed the development of symptoms of heart failure and decreased the need for related hospitalizations among such patients.

The results of a two-year study reported in 1992 demonstrated the value of *Mevacor*, our cholesterol-lowering agent. The study involved 270 patients with confirmed coronary disease and elevated cholesterol levels. An expert panel of cardiologists reviewed blinded test results and concluded that overall, patients treated with *Mevacor* had significantly less progression of the narrowing of their arteries than the placebo group. Based on these results, the study's Safety Committee recommended ending the study at two years instead of four. Computer analysis of the same data also showed less narrowing in patients receiving *Mevacor*. This difference was statistically significant in severely blocked arteries, but not overall. We have submitted a supplemental N.D.A. based on these results.

In seven ongoing clinical trials involving some 15,000 patients, we continue to study *Mevacor* and *Zocor*, our second cholesterol-lowering agent, on coronary heart disease, morbidity and mortality. Our extensive clinical studies and experience confirm the excellent effectiveness and good tolerability profile of both products in lowering elevated cholesterol.

In 1992 the indications for *Pepcid*, our H_2-receptor antagonist for treatment of duodenal and gastric ulcers, were expanded to include treatment of gastroesophageal reflux disease (GERD) in five countries, including the United States, and applications for the expansion of GERD maintenance are pending in 10 countries.

Prilosec, which is the first drug to inhibit the enzyme that releases acid into the stomach, is indicated for first line therapy for short-term treatment of active duodenal ulcers and GERD and other severe and poorly responsive gastrointestinal diseases. Studies to assess its effectiveness as long-term maintenance therapy for GERD are complete, and an application will be submitted to the F.D.A. in early 1993. *Prilosec* is licensed to Merck for sale in the United States by AB Astra. We are planning studies of both *Pepcid* and *Prilosec* in combination with antibiotic therapy to assess their potential effects on recurrence of duodenal ulcers.



In 1992 Merck continued its expansion of research facilities worldwide with the dedication of new laboratories in Japan with our affiliate, Banyu Pharmaceutical Co., Ltd. The seven other major laboratories are located in Rahway, N.J.; West Point, Pa.; Montreal, Canada; Hertford, England; Rueil, France; Pomezia, Italy; with two joint ventures, Sirena, Paris and Madrid, Spain.

Plendil, which is also licensed to Merck for U.S. sales by AB Astra, is our first calcium channel blocker for treatment of hypertension. In 1993 we plan to submit an application for an additional dosage strength of 2.5 mg. Clinical trials for the treatment of heart failure are ongoing.

Timoptic-XE, a new formulation of our beta-blocker *Timoptic*, is being developed for once-a-day dosing in the treatment of glaucoma. Phase III trials are complete, and worldwide marketing applications were submitted in late 1992.

Animal Health and Crop Protection

An ivermectin sustained-release formulation for cattle and an in-feed formulation for pigs are pending approval in the United States. An application has been submitted in the United States for enalapril maleate, the active ingredient in *Vasotec*, for the treatment of heart failure in dogs. MK-324, an avermectin analog now in development, is a topical product to control flea and tick infestation in dogs.

A new abamectin analog, MK-244, is being developed for the control of lepidopteran pests on high value vegetable crops such as cabbage, corn, lettuce and tomatoes.

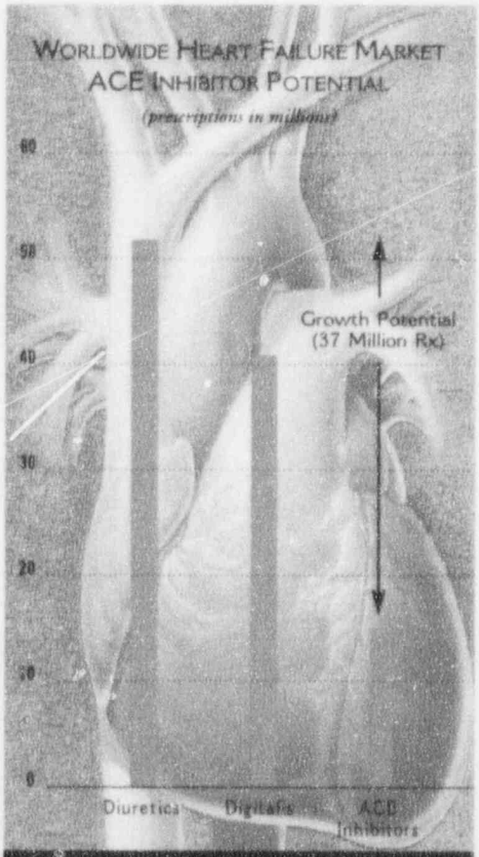
MARKETING

HUMAN HEALTH

In 1992 Merck expanded markets for its human health, animal health and crop protection products, and specialty chemicals.

Merck is competing to maintain its worldwide leadership in the pharmaceutical industry by sharply redefining its role in the global health-care market as the market itself undergoes dramatic changes. The Company's precedent-setting pricing principles, as well as our efforts to establish with various governments appropriate reimbursement measures and to achieve cost containment through cost-effective medicines, are helping to build vital business relationships in this challenging era.

Cardiovascular Products to Meet the Needs of the Aging Merck products, particularly our antihypertensives and cholesterol reducers, are strongly positioned to serve the medical needs of the expanding older patient market. The Company's successful cardiovascular product *Vasotec* received the broadest treatment claim of any angiotensin converting enzyme (ACE) inhibitor when it became the first product in the United States to have its labelling revised to reflect its ability to increase survival in symptomatic heart failure patients with left ventricular dysfunction.



Merck's ACE inhibitor Vasotec received an expanded label in a number of countries in 1992 for treatment of all stages of symptomatic heart failure, usually in combination with digitalis and diuretics. Heart failure is currently treated with 52 million prescriptions per year for diuretics and 41 million prescriptions for cardiac glycosides (e.g. digitalis) but only 15 million prescriptions for ACE inhibitors. This translates into a worldwide potential growth of 37 million ACE inhibitor prescriptions annually.

Along with *Vasotec*, the Company's cholesterol-lowering drugs, *Mevacor* and *Zocor*, again led sales worldwide. Still, nearly three-quarters of the people who have cholesterol levels in the recommended treatment range are untreated. *Mevacor* and *Zocor* showed strong results against intense competition from Bristol-Myers Squibb's Pravachol®.

Merck is making strides in improving physician and patient awareness of the dangers of high cholesterol. In the United States, we reinforced our marketing efforts by equipping our professional representatives with new educational materials on elevated cholesterol. Around the world, we launched educational programs to increase public awareness.

To further strengthen our marketing efforts in the United States, we established co-promotional arrangements with SmithKline Beecham for *Zocor* and with The Du Pont Merck Pharmaceutical Company for promoting the hypertension indication for *Vasotec*. Last fall, we announced our entry into the U.S. generic drug market with the creation of West Point Pharma, a new division that markets a generic version of our anti-inflammatory/analgesic product *Dolobid*.

Sales Derived from Increases in Volume In spite of pricing and competitive pressures, sales gains were achieved throughout Merck's product line in 1992, primarily through increased volume. In 1992, 16 Merck products representing a wide range of therapeutic classes, each achieved sales of $100 million or more. Three mature products, the cardiovascular drugs *Aldomet* and *Moduretic*, and our anti-inflammatory/analgesic product *Dolobid*, each achieved sales of nearly $100 million.

Joining *Vasotec*, *Mevacor* and *Zocor* as sales leaders were our anti-ulcer drugs *Pepcid* and *Prilosec*, the broad-spectrum antibiotic *Primaxin*, and our second ACE inhibitor *Prinivil*. Sales of the cardiovascular drugs *Prinzide* and *Vaseretic* also showed promising growth. *Timoptic* for treating glaucoma continues to be the market leader worldwide.

Top left: Merck's new generic drug division, West Point Pharma, is marketing a generic version of our anti-inflammatory/analgesic product Dolobid.

Above left: Janet Crawford, Merck Vaccine Division, points out the key elements in coordinating a successful community immunization campaign, demonstrated in a documentary of a Merck-supported effort.

Leading the Merck product entries in 1992 was the drug *Proscar* for the treatment of symptomatic benign prostatic hyperplasia, which was launched in 18 countries. For detailed information on *Proscar*, see pages 6-8. Other entries were *Zocor* in the United States and *Prinzide* in Italy.

Merck Broadens Worldwide Markets

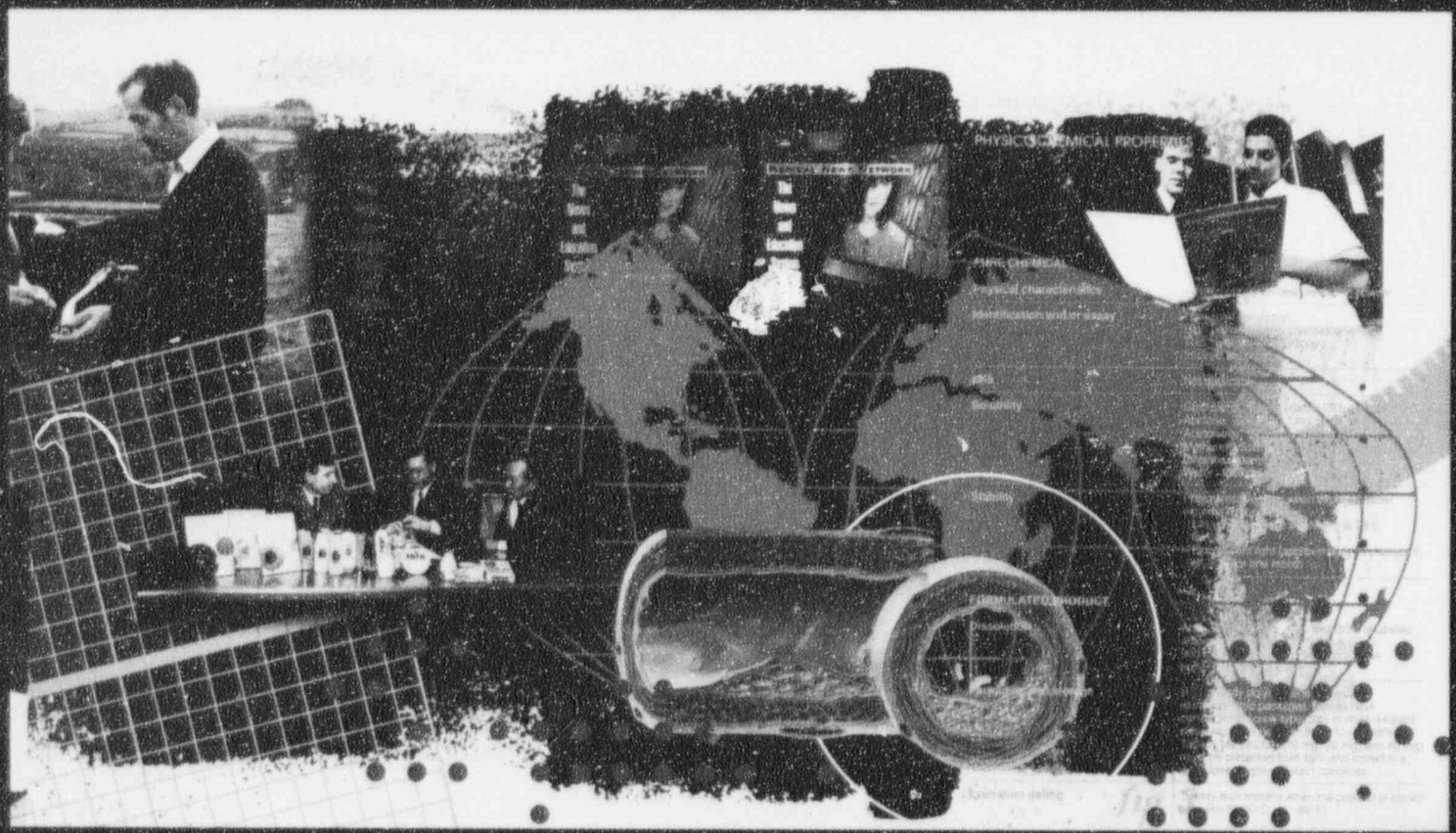
While the United States, Western Europe and Japan are major factors in our business, Eastern Europe and the Commonwealth of Independent States — with 400 million people — are markets that will be important to Merck in the next 10 to 15 years. To prepare for this opportunity, we have established Merck offices in the Czech Republic, Hungary, Poland, Russia, Slovakia, Ukraine and Uzbekistan. We are also expanding in Latin America, the Pacific Rim and the Middle East, with new operations in China, Mexico, Taiwan and Turkey.

Merck products particularly *Vasotec*, *Zocor* and *Primaxin*, continue to be successful in Japan and Latin America. Banyu

Above left: A New Product Planning Team develops five-year sales projections. From left: Heidi Zvid, James H. McIntyre and Ruth Desmond of the Merck Human Health Division.

Top: Product information on Vasotec *(r.) for the treatment of symptomatic heart failure patients with left ventricular dysfunction; and on* Vasotec I.V. *(l.) which is available to treat hypertension when oral therapy is not practical.*

Above: Arlene M. Dunn, Merck Human Health Division, calls on Allen Zimmerman, The Prudential Healthcare System, one of Merck's managed-care accounts. Chart shows our projected percentage of sales to managed customer segments will increase from 56 percent in 1991 to 70 percent by 1995. These segments include HMOs, PPOs, hospitals, nursing homes and government agencies such as Medicaid, the Veterans Administration, the military and the Public Health Service.



Top: Chris J. Battoms (L) of MSD AGVET demonstrates the new Ivomec *Sustained Release Bolus for grazing calves to English farmer G. Jeff Clapp of Devon.*

Top: Merck will be one of seven sponsors initially on a pilot basis, of Medical News Network, an interactive educational television program for physicians.

Top: Merck Sharp & Dohme Professional Representative Wim J. Wierda (L) discusses the Company's cholesterol-lowering drug Zocor with Bjorn Gyngesneyer, M.D., in Amsterdam, Holland.

Pharmaceutical Co., Ltd., Merck's affiliate in Japan, further enhanced its reputation with government authorities and the industry through pricing initiatives that were adopted as the industry standard in 1992. Banyu also led the industry for a second successful year in recruiting and hiring women as medical representatives.

Merck Frosst Canada continued to assert its leadership in the Canadian pharmaceutical market with the largest market gain of any company. In addition, recent legislative improvements in patent protection for pharmaceuticals as well as proposals to speed the regulatory approval of new drugs will create a more favorable business environment for Merck in Canada.

Above left: Kelco Division's Kelcogel *gellan gum has been test marketed in Japan. It will be used in a variety of products from gelled drinks to wet and dry noodles, displayed here by (from left) John Johnstone, Kelco Pacific International Sales; Kouichiro Isoda, Dainippon Pharmaceutical Co. Ltd.; and Yasukuni Nakatsuji, Kelco Japan Operations.*

Above: An artery clogged by fatty deposits as a result of elevated cholesterol.

Need for Cost Containment Creates Shifts in U.S. Markets Merck is responding successfully to evolving market forces with new drug entities geared to the aging patient, extending the value and use of existing products, and exploring new approaches such as Merck-manufactured generic versions of our products.

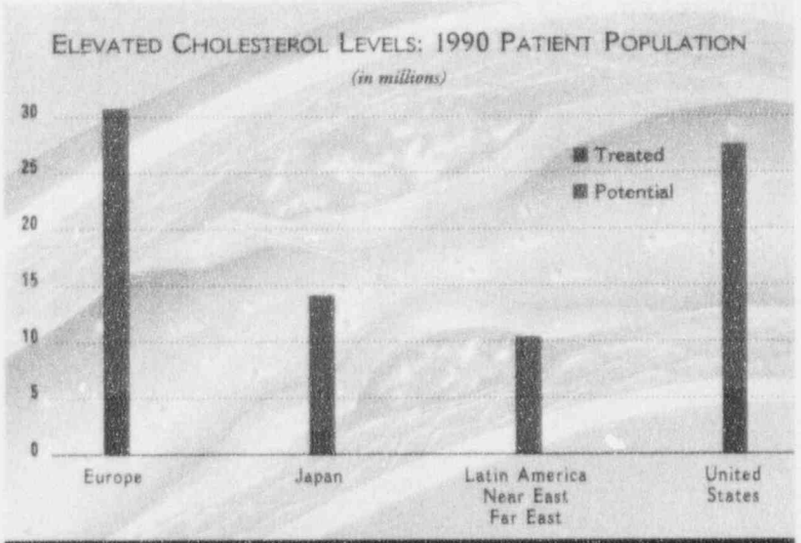
In the United States new customer groups form, continuing the shift away from single-physician, fee-for-service medical practice. While 53 percent of U.S. physicians are still in private practice, recent projections indicate that by 1995, the majority of doctors will practice in managed-care organizations.

■ We are collaborating with Health Maintenance Organizations (HMOs) on outcomes research, drug utilization review programs, compliance programs and wellness programs. In 1992 we signed contracts with providers encompassing nearly 75 percent of our targeted managed-care market in the United States, including more than 20 million HMO patients. Merck sales to HMOs have increased six-fold since 1985.

■ We are implementing pharmacy management programs with hospitals. In 1992 we established agreements covering selected orally administered products with hospital group purchasing organizations representing 80 percent of all hospitals in the United States. We also maintained existing contracts covering our hospital injectable products with group purchasing organizations representing 90 percent of U.S. hospitals.

■ We have been successful in working with state decision-makers to maintain patient access to our major products under state Medicaid programs.

The Company has taken a bold step in physician education technology. In the United States, Merck will be one of seven sponsors of Medical News Network television broadcasts to physicians, initially on a pilot basis. Interactive video technology will be designed to deliver late-breaking medical developments to physicians through their personal computer systems and should make it possible for physicians to request information about our products. In Europe, Merck is helping to provide post-graduate medical education through EuroTransMed satellite broadcasts to universities, medical centers and post-graduate training centers.



In Merck's major markets it is estimated that only 15 million people with elevated cholesterol are currently being treated; while there are 68 million people who need treatment.

In the five largest countries, 'potential' patients are those at significantly increased risk for atherosclerotic vascular disease due to hypercholesterolemia.

Worldwide Pressure for Cost Containment Continues Outside the United States, particularly in Europe, Merck faces similar challenges with intensifying competition and a nearly universal drive to contain health-care costs. Given this environment, we think it is absolutely essential that we work with governments to help them address their economic and health-care challenges. While Merck has been doing this for years, we are strengthening our efforts and encouraging changes across Europe.

As in the United States, we think that the best solutions, for example, will call for health-care systems that permit pharmaceutical prices to be market-driven and subject all medicines to co-payments for patients. These measures will serve the cost-containment needs of governments, assure patients' access to important medicines and preserve incentives for the research-based pharmaceutical industry.

Among other initiatives, the Company has created comprehensive pricing principles that, if adopted by governments, will help reduce the cost of medicines while encouraging innovation in the drug industry. Internally, we are intensifying efforts to establish a pan-European approach to our business, as well as maintaining an open dialogue with individual governments.

VACCINES

Merck firmly established its role as a premier vaccine company in 1992, continuing a major effort to encourage universal immunization and thereby contributing to the control of health-care costs by preventing disease.

The Merck Vaccine Division (MVD) is achieving these goals through new research and marketing collaborations and comprehensive strategies designed to upgrade public health conditions everywhere.

Merck is collaborating with Institut Mérieux/Connaught Laboratories, well-known specialists in vaccine research, to develop and market pediatric combination vaccines in the United States. In addition, our Australian subsidiary joined CSL Limited in an agreement to develop and market pediatric combination vaccines in Australia, New Zealand and major markets in Asia.

Significant sales gains throughout our vaccine line were again led by *Recombivax HB* for vaccination against hepatitis B. *Recombivax HB*, the world's first recombinant DNA vaccine, had an especially strong year after the U.S. government mandated vaccination of all persons at increased risk of exposure to blood or blood products and recommended the routine vaccination of all newborns. The pediatric combination vaccine *M-M-R* II for the prevention of measles, mumps and rubella continued to be the leading product in its class worldwide. Data from the U.S. Centers for Disease Control confirmed a reduction in the incidence of bacterial meningitis in infants, attributed in part to the availability of *PedvaxHIB*, Merck's vaccine for immunization against disease caused by Haemophilus influenzae type B.

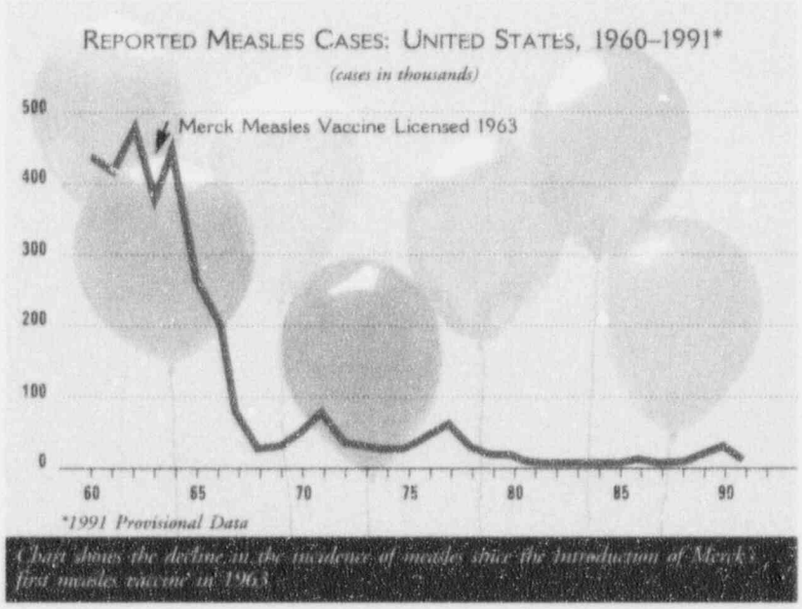


Chart shows the decline in the incidence of measles since the introduction of Merck's first measles vaccine in 1963

MVD continues to break down barriers to fully immunize all children in the United States through the Merck Immunization Initiative. This $5 million, three-year program supports local projects that make immunization services more accessible. In San Antonio, Tex., for example, the Initiative funds an immunization outreach and follow-up program through the emergency room of Santa Rosa Children's Hospital. In Camden and Elizabeth, N.J., we support an immunization demonstration project associated with Federally sponsored health and nutrition education centers for women and children. Another innovation is the Merck Medicaid Program for Vaccines, which will make vaccines more available to physicians treating children covered by Medicaid and will reduce the acquisition costs of vaccines purchased by the states for children eligible for Medicaid.

Working with the Children's Health Fund, Merck is improving access to immunization for needy youngsters by helping to fund mobile medical units. Last year, The Merck Company Foundation contributed over $1 million to help launch medical vans in Washington, D.C., and Miami, Fla. The Foundation also provided funding for a mobile medical unit in Russia.

Merck continues to provide its vaccines at significant discounts to government agencies sponsoring immunization clinics and services for needy families. We also provide comprehensive information to physicians and other health-care workers on the use, risks and benefits associated with vaccines.

Animal Health and Crop Protection

Merck AgVet reinforced its leadership in the worldwide animal health market in 1992, marking a decade of sustained growth.

Ivermectin, marketed in formulations to control parasites in several species of animals, remains the world's largest-selling animal health pharmaceutical. Formulations of *Ivomec* for food animals, *Heartgard-30* to prevent canine heartworm disease and *Eqvalan* for horses are still the leaders in their market segments.

Sales grew in most regions throughout the world. There was substantial growth in Australia and New Zealand as a result of stabilization in the wool market and favorable prices for meat and dairy exports.

Improved economic factors in the farming sector enabled Merck AgVet to post record sales in Latin America, particularly in Argentina and Brazil.

Michael Dillon, Sales Representative of MSD AGVET (r.), discusses Ivomec Premix for pigs with farmer Jamie Doran in Waterford, Ireland. The product is the first in-feed treatment for internal and external parasites in swine. It was introduced in both the United Kingdom and Ireland.

Market share increased in the European Community, with significant sales gains in Germany, Italy, Belgium and The Netherlands.

There were less favorable results in certain other markets, such as the Commonwealth of Independent States and less-developed nations, where the lack of hard currency slowed sales growth. Nevertheless, the demand remains high in these areas for both the animal health and crop protection products of MSD AGVET.

Though sales of *Ivomec* increased globally, a weak economy in the United States slowed consumer demand for beef and pork, resulting in slower growth in the sales of ivermectin products for food animals. The sluggish U.S. economy also affected sales in the heartworm-disease prevention market.

Food Animals The family of ivermectin products for cattle continues to expand with the introduction in the United Kingdom of *Ivomec* Sustained Release Bolus for grazing calves. Only one treatment with the bolus is required to control parasites for the entire grazing season.

The formulation has also been cleared for marketing in Canada, and applications are pending in other markets.

Earlier formulations of *Ivomec* for cattle continue to enter new markets. By the end of 1992, *Ivomec* Pour-On was available in 15 markets. The product was introduced in Australia in early 1993.

Ivomec-F, which incorporates clorsulon to extend parasite control to liver fluke in cattle, was introduced in three markets in 1992. *Ivomec-F* is now available in 16 markets.

A novel formulation for swine, *Ivomec* Premix, was launched in the United Kingdom and Ireland, marking the introduction of the first in-feed treatment for both internal and external parasites of pigs. Applications for marketing clearance are pending in eight countries.

Sales of *Ivomec* Injection for swine increased significantly in 1992 with particular gains noted in Germany, Belgium, Denmark and The Netherlands.

In 1992, as a result of sales performance in Australia and New Zealand, *Ivomec* for sheep had an excellent year.

Companion Animals Five years after its introduction and despite competition, *Heartgard-30* remains the leading preventive for canine heartworm disease.

As knowledge of the prevalence of heartworm disease increases, markets continue to open for the once-a-month preventive, which is available as a tablet and, in several countries, as a beef-based chewable. *Heartgard-30* was introduced in Brazil in 1992, bringing to nine the number of countries where the product is marketed.

In Japan, where MSD AGVET markets *Heartgard-30* (sold in Japan under the trademark *Cardomec*) through a local company, the Division established its own sales and marketing force in 1992 to begin parallel distribution of the product. MSD AGVET will work in tandem with its Japanese distributor to make the product more widely available. This represents the initial step by Merck AgVet, U.S.A. to establish its Japanese subsidiary as one of the country s leading animal health companies.

Heartgard-30 Plus, which combines ivermectin and pyrantel pamoate to control hookworms and roundworms, as well as prevent heartworm disease, was launched in the United States in early 1993.

In Montreal, Marlène Kalm, D.V.M., administers Heartgard-30 Plus *to a puppy for the prevention of heartworm disease and to control hookworms and roundworms. The product has received an enthusiastic reception in Canada.*

Heartgard-30 Plus was introduced in Canada and Australia in early 1992 to an enthusiastic reception from those countries' veterinary communities. A videoconference in Australia explained the product to veterinarians across the country.

Eqvalan for horses also had increased sales and remains the leading product for the treatment of equine parasite infections.

Crop Protection Crop protection products are increasingly important to Merck AgVet.

Abamectin-based products to control mites and insects achieved impressive worldwide gains. The products, available under several trademarks, are now marketed in 37 countries for a variety of crops, including citrus, tomatoes, cotton, ornamentals, vegetables and pears. In the United States, abamectin is registered for use on ornamentals, citrus and cotton.

Thiabendazole-based products to control fungal problems continue to post increased worldwide sales.

Hubbard Farms, Inc.

Hubbard Farms, Inc., a wholly-owned Merck subsidiary dedicated to improving poultry breeding stock, experienced marked growth in sales and income. British United Turkeys (B.U.T.), the foremost turkey breeder in the world, continues to record global growth. Of special note is B.U.T.'s performance in the United States, where in 1992 it nearly doubled its share of this important market.

SPECIALTY CHEMICALS

Innovative products characterized the performance of the Kelco Division, Calgon Vestal Laboratories and Calgon Water Management Division.

Kelco is the world's largest manufacturer of alginates and biogums used in a wide variety of food, dairy, pharmaceutical and industrial products and oil field drilling operations. Kelco's new gelling agent, *Kelcogel* gellan gum, received full food marketing clearance from the F.D.A. on November 25, 1992, providing Kelco the opportunity to introduce the product on a broad basis to the U.S. food industry. Test marketing has occurred in Japan with satisfactory results. Production of xanthan gum at Kelco's manufacturing facilities continued at high levels with further increases expected to meet the growing demand for this biogum, especially for use as a fat-replacing ingredient in the thriving "healthy foods" market.

Quality Control Technician, Joanne Campbell tests alginate fibers at CV Laboratories Limited in Rhyniney, Wales.

New product introductions and growth of existing market share marked the performance of Calgon Vestal Laboratories in 1992. *Helistat*, an absorbable collagen hemostatic sponge used in a variety of surgical procedures, made its debut, and sales of *Kaltostat*, a calcium sodium alginate wound dressing, expanded in both hospital and long-term care facilities. The Chemical Technologies Group introduced *Ozone*, a new technology, and a new line of products, *Geo-Guard*, that provide state-of-the-art, environmentally sound water treatment alternatives. Calgon Vestal Laboratories' United Kingdom subsidiary, CV Laboratories Limited, successfully launched *Algistat*, a calcium alginate fiber hemostatic agent used in surgical procedures. Sales in the environmental decontamination market rose sharply with the success of *Vesta-Syde*, an instrument decontamination system for operating room use.

A. Fred Kerst, Ph.D. (c), President of the Calgon Water Management Division, and Gerry Germain, Ph.D., Director of Applications Development R&D (r), accept Calgon's Quality System Certification from Peter Maitland, President of Vinyette USA Inc., confirming that Calgon products are produced within systems meeting established worldwide quality standards.

Early in 1993 Merck announced its intention to sell the Calgon Water Management Division. The decision was made despite the fact that the operating performance of Calgon has been and continues to be excellent. The decision reflects the Company's intention to focus its management and financial resources more fully on its core health-care businesses.

Calgon Water Management Division recorded two major accomplishments in 1992: the introduction of the pHREEdom™ product line (various patents pending), a revolutionary new cooling water product that greatly extends the operating parameters of industrial cooling systems while conserving water; and achieving International Standards Organization (ISO) 9002 certification. This is the international conformity standard for quality systems established by the ISO that is almost essential to conduct business in Europe. Only a small percent of U.S. manufacturing companies has achieved this prestigious quality rating.

MANUFACTURING

In 1992 Merck demonstrated the successful integration of chemical, pharmaceutical and biological manufacturing, as well as corporate engineering, environmental and safety operations into a whole that is indeed greater than the sum of its parts. The Merck Manufacturing Division (MMD) now manages more than $2.7 billion in assets and comprises 11,600 employees at 31 manufacturing facilities in 16 countries.

Through enhanced management of assets, expenses and human resources, MMD laid a firm foundation that will lead to increasing contributions to the Company's continued success.

Manufacturing Strategies To increase manufacturing flexibility, Merck continued to invest in facilities, advanced technology and equipment at key manufacturing sites while capitalizing on opportunities to eliminate redundant operations and surplus capacity at other facilities. MMD is discontinuing all pharmaceutical manufacturing operations at Hoddesdon, England, and Bad Aibling, Germany, and chemical manufacturing in Alcalá, Spain. It also sold its facility in Coumon, France.

MMD continued to increase productivity in Europe by installing new packaging technology. Changeover between packaging operations for blister tablet packs was reduced from eight hours to only one-half hour for some products in Haarlem, Holland; and in Milan, Italy, output of the antibiotic *Primaxin* has tripled. (*Primaxin* is sold under the trademark *Tienam* in most European countries.) New technology in Pavia, Italy, is ensuring the quality and sterility of *Chibroxin* and other ophthalmic products. A new manufacturing process forms the bottle, and fills and seals it in a completely integrated operation without operator intervention.

New and renovated facilities at other locations are enhancing flexibility to respond to marketing demands. MMD broke ground on a new biotechnology manufacturing complex in West Point, Pa. The facility, expected to be completed in 1995, will provide additional capacity for vaccine production. In 1992 MMD also completed the installation of new manufacturing chemistry for the antibiotic *Primaxin* in Danville, Pa. The modular design and computerized control system of the facility adds flexibility, and the streamlined new process eliminates the use of the solvent methylene chloride.

As Merck's business grows, MMD is seizing the opportunity to increase manufacturing utilization. In Danville, Pa., idle fermentation facilities have been renovated to manufacture xanthan gum, a product of Merck's Kelco Division. The active ingredient for *Prilosec*, an anti-ulcer agent marketed by Merck in the United States under a license from AB Astra, is now produced in MMD's Albany, Ga., facility.

New Efficiencies in Operations MMD is seeking new operating efficiencies by lowering inventories, developing new manufacturing and packaging techniques and streamlining distribution systems. Because it is a single manufacturing division, MMD is now able to implement supply-chain management from the first raw material that enters the manufacturing process to the delivery of finished goods. MMD's goal is to reduce inventories while maintaining its high cus-

Top left: At Danville, Pa., Gary Shoop (r.) and Jason Kulig monitor the production of a component of the antibiotic Primaxin *via computer screen.*

Top: At Pavia, Italy, Valentino Cassinelli monitors new packaging technology used to form, fill and seal bottles for ophthalmic products in a completely integrated sterile environment.

tomer service levels. To fully leverage Merck's purchasing power globally, a management team is reviewing worldwide purchasing to develop a more effective and efficient procurement system.

In Europe, where the sizes and shapes of tablet packaging are numerous and often unique to each market, MMD has undertaken a package standardization initiative. Conversion to uniform blister packages and high-volume carton printing significantly increases production flexibility to deal with unexpected changes in sales demands, saves money and reduces waste.

Total Quality Management Quality has long been a hallmark of Merck's reputation, and the formation of a worldwide Quality organization within MMD will advance total quality management practices for increased customer satisfaction and continuing competitive advantage for Merck.

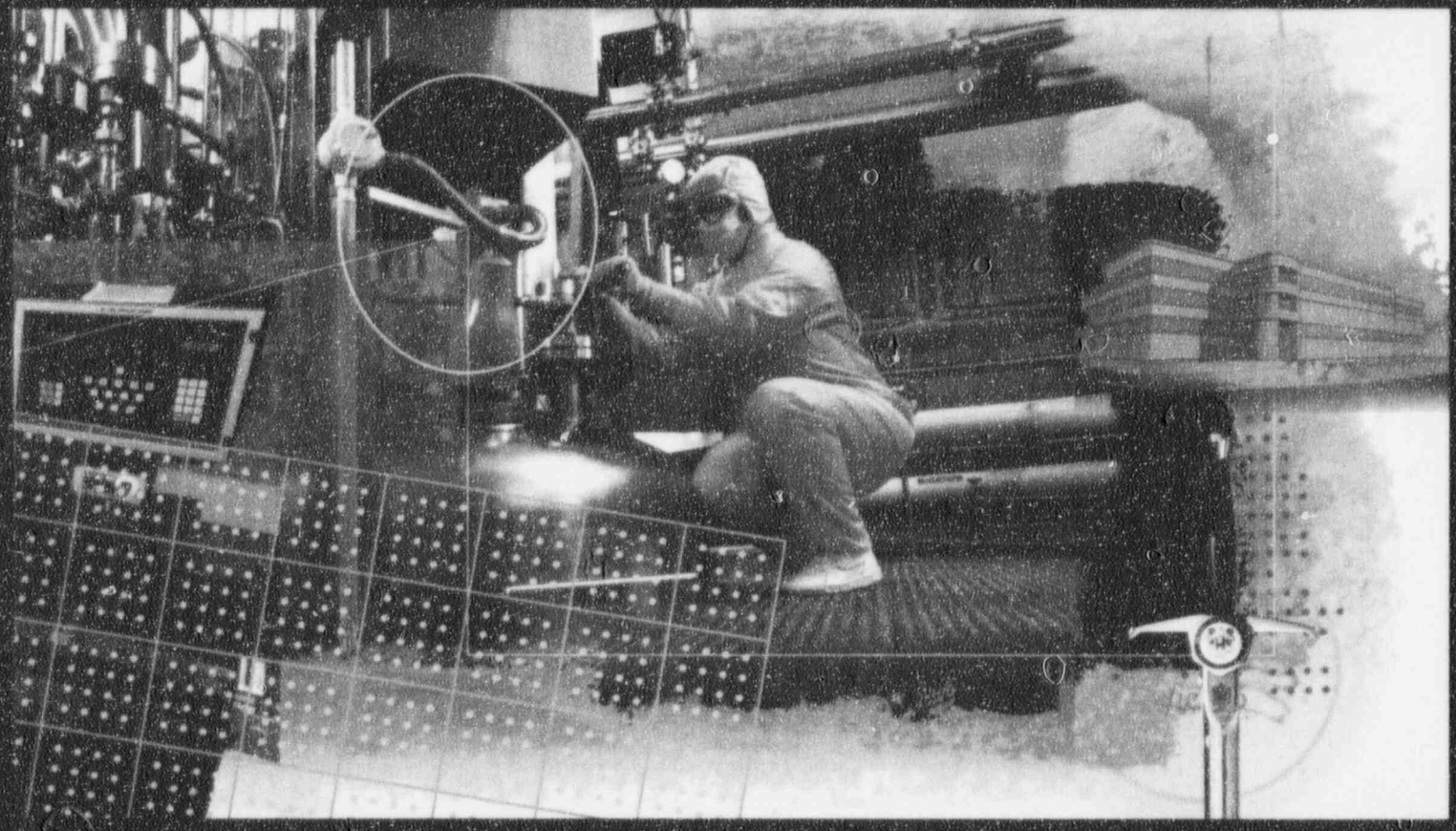
Top: At the Rahway, N.J., plant, new equipment recovers used processing solvents to protect the environment.

Above: Merck is working to reduce waste in packaging materials. For example, in the United States our cholesterol-lowering product Mevacor *will no longer be packaged in a carton, and the product information circular will be attached to a recyclable bottle.*

Above: At the Haarlem, Holland, site, Anneke Waage operates quick changeover packaging lines that reduce down-time and improve efficiency.

A key MMD quality improvement strategy is to involve all employees in achieving the highest levels of product and service quality by moving traditional quality control responsibilities out of the laboratory and into the plant. By applying another frequently used quality management tool, statistical process control, MMD continues to improve product consistency.

MMD is building quality into the manufacturing process by applying automation and analytical testing on the manufacturing floor to provide



Above: At Elkton, Va., Chemical Operator Teresa Bawman works at a fully automated fitter/dryer system that separates and dries an antibiotic component, eliminating the need for aseptic sampling.

rapid feedback on processing parameters. For example, at the Cramlington, England, facility, automated tablet compressing machines can produce up to 3,000 tablets per minute while automatically sampling and testing tablets for weight, thickness and hardness. The machines make their own adjustments when necessary. Instead of manual controls, operators monitor the process at computer consoles. In Elkton, Va., automation and in-line testing of the drying operations for bulk components of the process for the antibiotic *Primaxin* have eliminated the need for aseptic sampling — thus better ensuring product sterility. Initiatives like these are occurring at every MMD manufacturing location and form the basis of the MMD quality plan.

Right: In the United Kingdom, employees were awarded the British Safety Council Sword of Honour for their outstanding safety performance.

Top right: At West Point, Pa., a new biotechnology manufacturing complex is expected to be completed in 1995.

Safety Record The past year also brought the attainment of numerous safety milestones. More than a quarter of the Company's work units surpassed the million-hour mark without a lost-time injury. MMD's manufacturing plants received awards from the British Safety Council, the National Irish Safety Organization, the British Royal Society for the Prevention of Accidents and the U.S. National Safety Council. Although Merck is proud of its safety accomplishments and record of continuous improvement, the Company recognizes that it must continue to advance its safeguards and employee education programs.

Merck has enhanced its safety programs and performance through ongoing initiatives and active

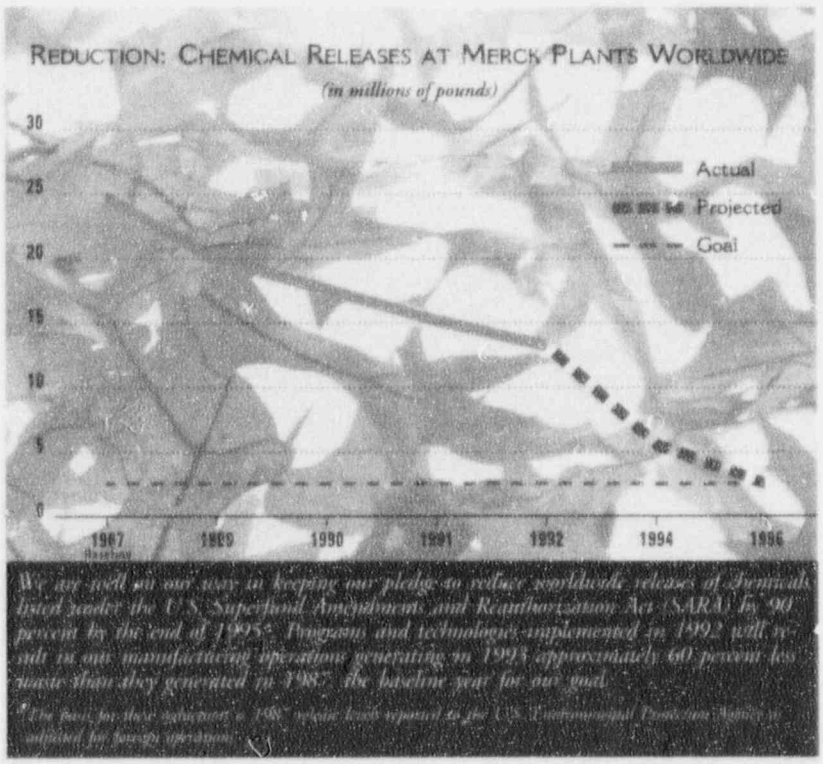
employee participation. The Company has more than 200 safety committees involving approximately 1,500 employees at all levels in facilities around the world.

The Company's comprehensive process safety management program continues to reduce and manage risk. The program incorporates 12 technical elements aimed at identifying, understanding and controlling process hazards to reduce the risk of serious incidents.

Safeguarding the Environment Merck is committed to conducting its business globally in a manner that protects the environment, as well as the health and safety of its employees and the public.

Environmental responsibility is a key issue for manufacturing. MMD is bringing its spirit of innovation in achieving excellence to the protection of the air, land and water in communities where we have manufacturing facilities. The installation of new process chemistry and associated control systems for the manufacture of an intermediate of the antibiotic *Primaxin* in Danville, Pa., will reduce the site's annual air emissions by more than 50 percent. In Albany, Ga., air emissions of the solvent methylene chloride were reduced by more than 90 percent by installing a low-temperature recovery system.

Projects like these throughout the world enabled Merck to realize its goal of reducing worldwide air emissions of known or suspect carcinogens by 90 percent. The Company is well on the way to achieving its 1995 goal of reducing by 90 percent all environmental releases of toxic chemicals from its facilities worldwide.



Merck also is striving to protect and preserve the water and land for the future. MMD facilities around the world are installing secondary containment for all solvent storage areas, and, where local regulations permit, the Company is moving these facilities above ground for better monitoring and early leak detection.

To conserve natural resources and landfill space, MMD also has established an aggressive program for the reduction of packaging components. Projects already under way in Europe will reduce by 10 percent the amount of aluminum and foils entering the environment and the size of cartons by 20 percent. In the United States, cotton has been eliminated from trade and sample bottles.

Merck's environmental leadership has won wide recognition. In the United States, Merck was awarded the National Medal of Technology for the Company's sustained innovation and proper concern for the environment, received the National Wildlife Federation Corporate Conservation Council's 1992 Environmental Achievement Award, and was named to the National Environmental Development Association's Honor Roll. MMD's Ballydine, Ireland, plant was the recipient of the 1992 Good Environmental Management Award presented by the Minister of the Environment.

Shareholders may obtain a copy of the Company's annual summary of environmental accomplishments by writing to:
Environmental Progress Report
P.O. Box CN931
Whippany, NJ 07981

STRATEGIC ALLIANCES

Merck's internal strategy for growth is to increase research and development spending and its marketing presence worldwide. Externally, Merck has gained access to additional research, markets and products through research agreements and licensing arrangements; co-development, co-promotion and co-marketing with other companies; product acquisitions, and major joint ventures.

During a sales training session, Astra/Merck Group Pharmaceutical Specialists James Brewer (L) and Steven Butler discuss how they can most effectively respond to customer needs in the changing health-care environment.

Reports on many of these alliances appear in the research and marketing sections of this Report. Here, developments on three of our major alliances are discussed in more depth.

Astra/Merck In 1992 the Astra/Merck Group was established to help implement the terms of the 1982 agreement between Merck and AB Astra, a Swedish pharmaceutical company. Under the agreement, Merck currently markets three Astra products in the United States: *Tonocard*, for the treatment of life-threatening ventricular arrhythmias; the unique anti-ulcer drug, *Prilosec*, and the calcium channel blocker *Plendil* for hypertension. A U.S. drug application for another Astra drug, *Roxiam*, for the management of psychotic disorders, including schizophrenia, was submitted early in 1993.

At the laboratories of The Du Pont Merck Pharmaceutical Company, scientists Janet Dunlavey (foreground) and Mindy Kirshenbaum are involved in cancer research.

The 1982 agreement with Astra stipulates that if U.S. sales reach a predetermined level prior to December 31, 1993, steps will be taken to form a separate entity for the operations related to Astra products, in which Astra may acquire a 50 percent share. We expect to reach this level in the second half of 1993, and within two years, the separate entity will become operational with U.S. rights to products currently licensed from Astra as well as most future Astra research discoveries. Merck has chosen to utilize this valuable opportunity to plan and build a new model pharmaceutical company. Through different organizational design and significant use of information technology, this new company will be flexible and rapid in its response to the changing health-care environment with its growing diversity of customers. A sales force of about 500 was deployed during 1992 and organized in 31 customer-focused teams to serve both the medical and business information needs of customers.

Additionally, during 1992, groundbreaking was held for the group's headquarters building in Wayne, Pa., which is expected to be occupied in early 1993.

The Du Pont Merck Pharmaceutical Company During 1992 The Du Pont Merck Pharmaceutical Company was listed among the Fortune 500 companies, and by the end of 1992, reached sales of $975 million and strengthened its position in Europe.

Du Pont Merck markets pharmaceutical and imaging agent products in 80 countries. Products such as *Cardiolite* kit for heart imaging and Thallium heart imaging agents; *IV Persantine*, a drug that simulates the effect of exercise in patients too weak or ill to be stress-tested; and *Coumadin*, an anti-coagulant, continue to be market leaders. Under licensing arrangements with Merck, the joint venture has marketing rights to five products in France, Germany, Italy, Spain and the United Kingdom. These are *Moduretic* for certain patients with high blood pressure and

the relief of symptoms of heart failure, primarily edema; *Sinemet* for Parkinson's disease and *Sinemet CR*, a sustained-release formulation, and the cardiovascular drugs *Prinivil* and *Prinzide*. The joint venture also markets *Sinemet* and *Sinemet CR* in North America. It promotes the antihypertensive *Vaseretic* in North America and *Vasotec* for hypertension in the United States.

The openings of subsidiaries in Italy in late 1991 and in Spain in 1992 contributed to sales and are expected to strengthen the joint venture's future performance with existing and new products. Also in 1992, the joint venture signed a letter of intent to form an alliance with Banyu Pharmaceutical Co., Ltd. in Japan to develop and market Du Pont Merck products in that country.

Du Pont Merck is reinvesting almost 30 percent of its sales in its research pipeline. Research is focused on developing medicines to treat heart disease, cancer, arthritis, neurological diseases and AIDS. Losartan potassium, an angiotensin II receptor antagonist for the treatment of hypertension and heart failure, is in Phase III clinical trials and continues to show effectiveness and is generally well tolerated. This product is being co-developed with Merck.

Woelm Pharma Professional Representative Hans-Joachim Grassau discusses a new, rapid-acting Woelm analgesic product, Dolormin, with pharmacist Helga Scheer in Frankfurt, Germany. Woelm, a leading self-medication business, is part of the Johnson & Johnson/Merck joint venture in Europe.

Johnson & Johnson ◦ Merck Consumer Pharmaceuticals Co. A major strategy of the Merck Consumer Healthcare Group is the development of self-medication formulations of certain Merck prescription medicines to meet an anticipated increase in consumer demand for self-medication products worldwide. In 1992 a New Drug Application was submitted in the United States for a self-medication formulation of Merck's *Pepcid*.

In 1989 the formation of a joint venture between Merck and Johnson & Johnson created the Johnson & Johnson ◦ Merck Consumer Pharmaceuticals Co., an organization that aims to become one of the leading self-medication companies by the year 2000. The joint venture gained strong entry into the over-the-counter market in the United States with the acquisition in 1990 of the *Mylanta* product line from ICI Americas, Inc.

In the United States, *Mylanta* continues to be the leading liquid antacid as well as the antacid most often recommended by doctors. The gel-cap formulation of *Mylanta* was introduced and was the first gel-cap in the antacid category with excellent consumer acceptance. The gel-cap dosage form is licensed to the joint venture by Johnson & Johnson. It has been the fastest growing dosage form in the analgesic market with high consumer preference.

In early 1993 the joint venture will consolidate production operations for manufacturing antacids in a new state-of-the-art facility in Lancaster, Pa., which will increase manufacturing efficiency.

In 1991 Merck and Johnson & Johnson acquired certain assets from Woelm Pharma, a leading self-medication business in Germany. In 1992 the joint venture extended its product line in Europe with the introduction to consumers in Germany of the analgesic *Dolormin*.

PEOPLE

Human Resources continued to focus on activities that will help us maintain our competitive edge and meet the challenges in a changing global marketplace. Our employees are a critical factor in any success we achieve. Consequently, the task of recruiting, developing and keeping talented people remains a major challenge.

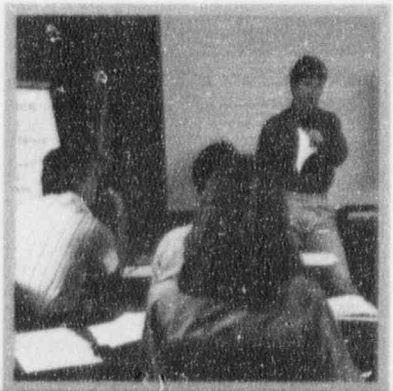
Our recruiting efforts continue to meet with success in employing graduates from the nation's most prestigious universities and colleges.

In 1992 nearly 600 college graduates joined our U.S. ranks, 43 percent of whom are women and 22 percent of the graduates are members of minority groups. Also in 1992, for the second consecutive time, Merck was named one of the "25 Best Places for Blacks to Work" by Black Enterprise magazine.

Merck has had substance abuse policies in effect since 1974. While we see no evidence of the problem in our workplace, in view of the nation's growing addiction crisis and our own critical need to maintain a workplace free of substance abuse, we have undertaken an extensive employee education program. The program is aimed at reinforcing the Company's policy and making employees more aware of the services available to them and members of their families.

With the implementation of the Americans with Disabilities Act, we reiterated our position on providing a workplace free from discrimination. We established a task force to ensure compliance with both the "letter and spirit" of the Americans with Disabilities Act. Also, we were selected by Careers & the Disabled magazine as one of the top 25 companies committed to hiring people with disabilities.

Elaine Eckenrath and her husband, Asif Mayat, who work at our new corporate headquarters at Whitehouse Station, N.J., greet their children, Meghan and Adam, at the end of the workday at Merck's new child-care center.



Thomas L. Craft leads a discussion during a Substance Abuse Prevention Workshop at our Wilson, N.C., plant. Shown are Pamela A. Meacher (foreground), Russell D. Watson, Jr. and Michael W. Lowe.

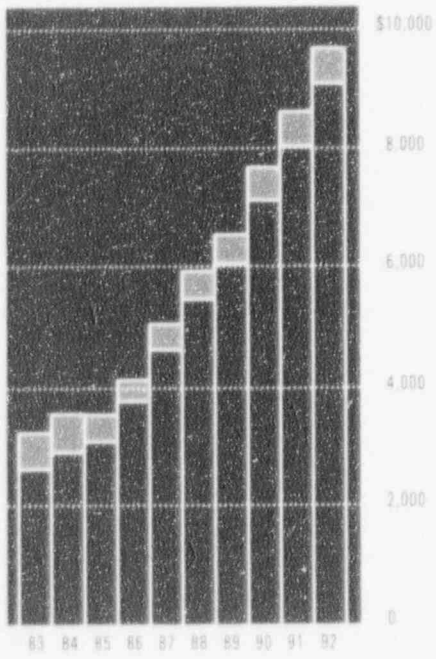
For years Merck has been a pacesetter in work and family programs, recognizing that employees are more productive if they are not burdened with worries about dependent care. In 1992 Merck completed an on-site employee child-care center at Whitehouse Station, N.J., and a second center will be opened at Rahway, N.J., in 1993. The Company also participated in the ABC Collaboration for Quality Dependent Care, an effort by many of the nation's leading companies to make cost-effective dependent-care programs available to employees. In addition, Merck was again named by Working Mother magazine as one of the 10 best companies in America for working mothers.

The Company also continues to emphasize pay-for-performance in our compensation programs. In line with our philosophy to reward exceptional performance and expand Company ownership worldwide, we have increased the number of employees who are eligible to participate in compensation programs that provide for cash awards and stock options.

We realize that a large part of controlling the nation's health-care costs depends on preventive care. For this reason, we continue to encourage employees to be responsible for their own health care by taking advantage of Company-offered disease and detection programs — including hypertension, cholesterol and mammography screenings, as well as by following recommended regimens for diet and exercise.

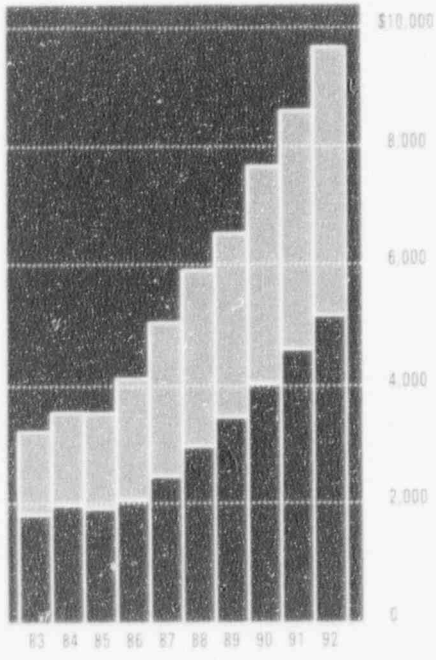
Financial Section

Consolidated Sales
($ in millions)



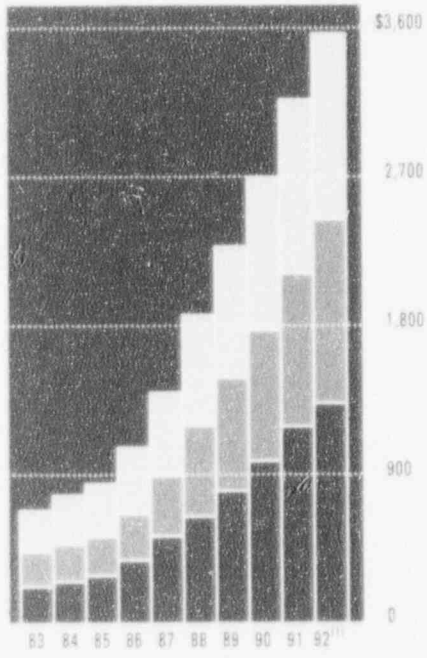
■ Specialty Chemical Products
■ Human and Animal Health Products

Consolidated Sales
($ in millions)



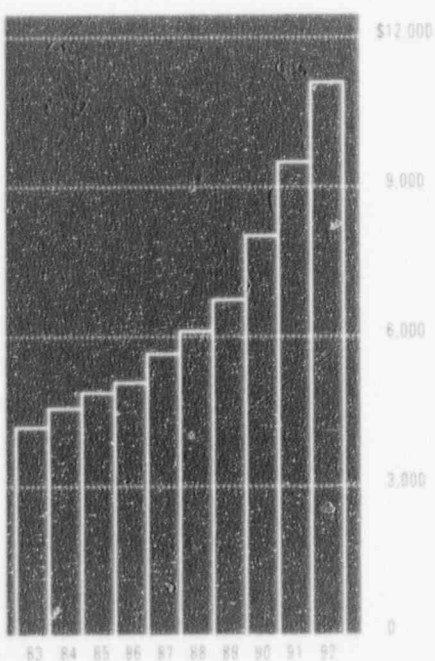
■ Foreign
■ Domestic

Distribution of Income
($ in millions)

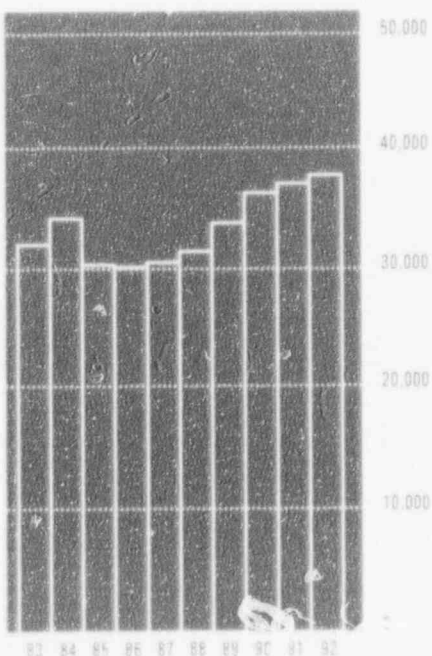


Taxes on income
■ Dividends
■ Addition to retained earnings
[1] Excludes the cumulative effect of the accounting changes described on page 33.

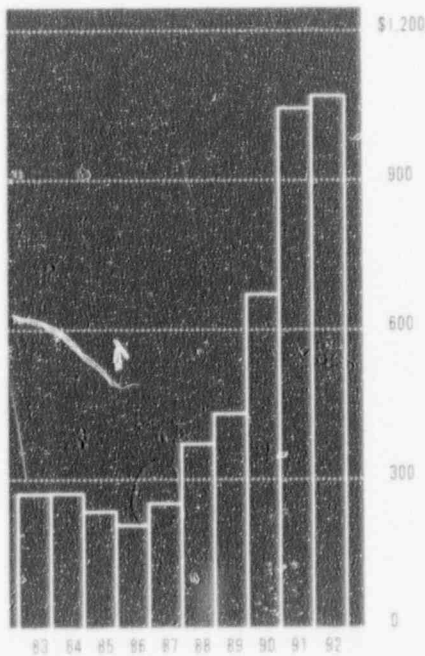
Total Assets
($ in millions)



Employees



Capital Expenditures
($ in millions)



Description of Merck's Business

Merck is a worldwide organization engaged primarily in the business of discovering, developing, producing and marketing products and services for the maintenance or restoration of health. The Company's business is divided into two industry segments: Human and Animal Health Products and Specialty Chemical Products.

Human and Animal Health Products

Human health products include therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders. Among these are cardiovascular products, of which *Vasotec*, *Mevacor*, *Zocor*, *Prinivil*, *Vaseretic*, *Moduretic* and *Aldomet* are the largest-selling; anti-ulcerants, of which *Pepcid* and *Prilosec* are the largest; antibiotics, of which *Primaxin*, *Noroxin* and *Mefoxin* are the largest; vaccines/biologicals, of which *Recombivax HB* (hepatitis B vaccine recombinant) and *M-M-R II*, a pediatric vaccine for measles, mumps and rubella, are the largest-selling; ophthalmologicals, of which *Timoptic* is the largest; anti-inflammatory/analgesic products, of which *Indocin*, *Dolobid* and *Clinoril* are the largest; and other human health products, which include antiparkinsonism products, psychotherapeutics, a muscle relaxant and *Proscar*, a treatment for symptomatic benign prostate enlargement, which was introduced in the United States late in the second quarter of 1992.

Animal health/crop protection products include animal medicinals used for control and alleviation of disease in livestock, small animals and poultry. These products are primarily antiparasitics, of which *Ivomec*, for the control of internal and external parasites in livestock, and *Heartgard-30*, for the prevention of canine heartworm disease, are the largest-selling; crop protection products; coccidiostats for the treatment of poultry disease; and poultry breeding stock.

SALES OF HUMAN AND ANIMAL HEALTH PRODUCTS

($ in millions)	1992	1991	1990
Cardiovasculars	$4,482.0	$3,804.2	$3,140.1
Anti-ulcerants	1,043.9	820.6	599.8
Antibiotics	942.2	917.7	856.1
Vaccines/biologicals	485.3	375.1	383.3
Ophthalmologicals	457.2	425.2	403.5
Anti-inflammatories/analgesics	430.5	500.4	594.4
Other human health	373.4	381.9	417.9
Animal health/crop protection	853.1	794.4	755.4
	$9,067.6	$8,019.5	$7,120.5

Sales of the Company's human and animal health products are generally made by professional representatives. Customers for human health products include drug wholesalers and retailers, hospitals, clinics, governmental agencies and managed health-care providers such as health maintenance organizations and other institutions. Customers for animal health/crop protection products include veterinarians, distributors, wholesalers, retailers, feed manufacturers, veterinary suppliers and laboratories.

The markets in which this segment's business is conducted are highly competitive and, outside the United States, highly regulated. The introduction of new, technologically innovative products and processes by competitors may result in price reductions and product substitutions, even for products protected by patents. Government efforts to slow the increase of health-care costs have made it increasingly difficult for the Company to cover the effect of inflation on costs and expenses through price increases. It is anticipated that the worldwide trend for cost containment will continue for the balance of the 1990s, and result in continued pricing pressures.

Since early 1990, Merck has voluntarily followed a pricing policy that limits the weighted average price increases for human health pharmaceutical products to the general rate of inflation, as measured by the U.S. Consumer Price Index. This policy is supported by our strategy to grow through volume and not price, given stable market conditions and government policies that foster innovation. Also in 1990, Merck introduced its Equal Access to Medicines Program in a number of states. Under this program, Merck voluntarily granted its best price discounts to state Medicaid programs in exchange for full patient access to our products. This innovative program served as a model for national legislation applicable to all prescription drug manufacturers. The Company believes this law will improve the availability of quality health care to all people and preserve the ability of doctors to choose the medicines they think best for their patients while alleviating some of the budget pressures under which the Medicaid program operates. These actions and other voluntary efforts demonstrate our corporate responsibility and have provided a voice for health-care reform. In 1992, total domestic rebates and discounts, including those for large pharmaceutical buyers, approximated $96.0 million.

Outside of the United States, governments are also taking actions which are forcing the Company to significantly limit selling prices to remain competitive. Governments' actions to

increase the use of generic products have significantly reduced the sales of certain of the Company's products no longer protected by patents and have slowed the sales growth of certain other products. These governmental efforts and competitive pressures are limiting the Company's ability to mitigate the effect of inflation on costs and expenses through price increases. Merck is responding to this new environment in a number of ways including the development of innovative sales, marketing and education techniques, by developing health-care alliances with large pharmaceutical buyers, and by efforts to become more productive throughout our entire organization.

In the United States, legislative bodies are working toward a solution to expand health-care access and reduce the costs associated therewith. The debate to reform the health-care system is expected to be protracted and intense. Although the Company is positioned to do business in a managed competition environment and respond to evolving market forces, it cannot predict the outcome or effect of legislation resulting from the reform process. However, the Company believes that its current policies will enable it to maintain a strong position in this changing economic environment.

Other principal strategies for remaining competitive in this environment include investing in research and development (R&D) directed toward the discovery and development of new, technologically innovative products, and through joint ventures, licensing agreements and other strategic alliances, the acquiring and marketing of products, and discovery and development of new products.

In 1989, Merck and E. I. du Pont de Nemours and Company (Du Pont) agreed to form a long-term research and marketing collaboration to develop a new class of therapeutic agents for high blood pressure and heart disease, discovered and developed by Du Pont. In return, Merck provided Du Pont marketing rights in the United States and Canada to two Merck prescription medicines, *Sinemet* and *Vaseretic*.

To further enhance the Company's access to research products, Merck and Du Pont created an independent, research-driven, worldwide pharmaceutical joint venture, equally owned by each party, which began operations on January 1, 1991. Du Pont contributed its entire pharmaceutical and radiopharmaceutical imaging agents businesses and is providing administrative services. Merck is providing research and development expertise, development funds, certain European marketing rights to several of its prescription medicines, international industry expertise and cash. The partnership represents a long-term investment by both companies, as the joint venture's R&D effort is not expected to produce significant commercial results until the late 1990s. In September 1992, the joint venture began co-promotion of Merck's prescription medicine, *Vasotec*, for the treatment of hypertension. The joint venture is not expected to have a significant impact on the Company's financial operations in the near term.

In 1989, Merck and Johnson & Johnson formed a joint venture that will develop and market a broad range of non-prescription medicines for U.S. consumers. In January 1990, the joint venture acquired the U.S. self-medication business of ICI Americas, Inc. (ICI), with ICI obtaining the U.S. rights to *Flavil*, one of the Company's products. In May 1991, Merck and Johnson & Johnson signed an agreement in principle, which was finalized January 1, 1993, to extend their U.S. joint venture agreement to include Europe. This new European joint venture is intended to market and sell over-the-counter pharmaceutical products in Europe. In October 1991, as a first step toward the establishment of the European business, the companies acquired certain assets of Woelm Pharma, a leading German self-medication business.

In 1991, Merck formed a separate vaccine division to enhance its existing vaccine business and also to expand its presence through acquisitions, licensing agreements and outside research collaborations. In 1991, Merck and Connaught Laboratories, Inc., an affiliate of Pasteur Mérieux Sérums & Vaccins (Pasteur), signed an agreement to collaborate on the development and marketing of combination vaccines and to promote selected vaccine products in the United States. In 1992, Merck and Pasteur agreed in principle to form a joint venture to market vaccines and to collaborate in the development of combination vaccines for distribution in Europe. This agreement would be subject to antitrust approval by the European Commission.

In 1982, the Company entered into an agreement with AB Astra (Astra) to develop and market Astra products in the United States. Currently, Merck markets three Astra products, *Prilosec*, *Plendil* and *Tonocard*, in exchange for a royalty. Merck has submitted a New Drug Application with the Food and Drug Administration for another Astra product, *Roxiam*, a medication for treatment of acute and chronic schizophrenia. In the latter part of 1993, if the Company's total sales of Astra products reach a certain level, the Company will form a separate entity for operations related to Astra products. Astra would have the right to acquire a 50% share of the new entity, at which time the Company's royalty obligation would cease. Other than the acquisition price, the contribution of this business to the Company's operations is not expected to have a significant impact on financial results in the near term.

Specialty Chemical Products

This segment contributed $594.9 million, $583.2 million and $551.0 million to Company sales in 1992, 1991 and 1990, respectively. The Company's specialty chemical products have a wide variety of applications, such as use in health care, food processing, oil exploration, paper, textiles, utilities and personal care. Sales of products and services in this segment are made to channels of trade including industrial users, health-care providers, distributors, municipalities and utilities. On February 17, 1993, the Company announced its intention to sell the Specialty Chemical segment's Calgon Water Management business. The sale of this business is not expected to have a significant impact on the Company's financial position or results of operations.

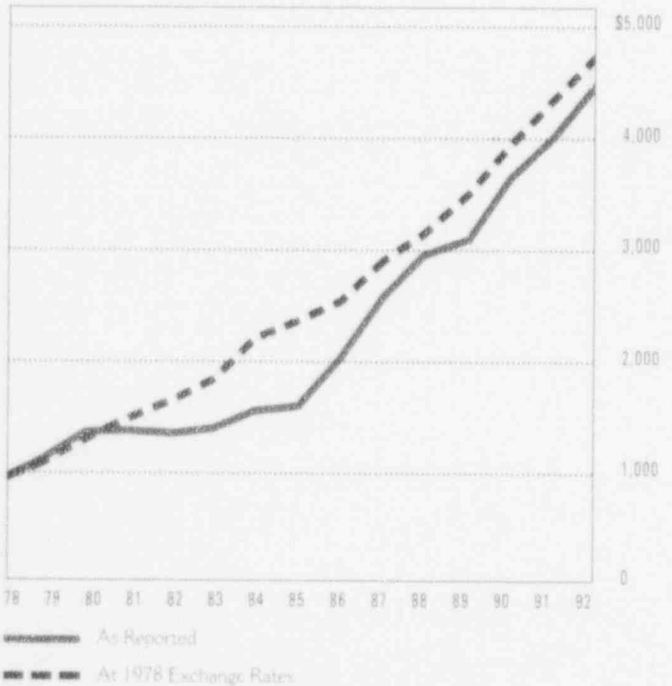
Foreign Operations

The Company's operations outside the United States are conducted primarily through subsidiaries. Sales by subsidiaries outside the United States were 46% of sales in 1992 and 1991, and 47% in 1990.

The Company's worldwide business is subject to risks of currency fluctuations, governmental actions, including nationalization and expropriation, and other governmental proceedings abroad. The Company does not regard these risks as a deterrent to further expansion of its operations abroad. However, the Company closely reviews its methods of operations, particularly in less developed countries, and adopts strategies responsive to changing economic and political conditions.

The integration of the European market after 1992 will impact businesses operating within the European Community (EC), particularly companies such as Merck that maintain research facilities, manufacturing plants and marketing and sales organizations in several countries. Merck is in the process of identifying and taking advantage of opportunities to rationalize its EC operations so as to continue to meet the needs of its customers in the most efficient manner possible.

FOREIGN SALES
($ in millions)



This chart illustrates the effect of changes in exchange rates of major foreign currencies on the Company's sales to foreign customers. The solid line represents actual foreign sales and the dotted line represents what foreign sales would have been at exchange rates in effect in 1978. Although exchange had a small favorable effect on year-to-year sales growth in 1992, values of foreign currencies measured in U.S. dollars still have not returned to their historic levels. If 1992 foreign sales had been made at the exchange rates that prevailed from 1978 to 1980, they would have been approximately $250 million higher.

Over the years, the Company has divested and restructured to reduce its operational exposure in countries where economic conditions or government policies make it difficult to earn fair returns. At the same time, Merck is actively pursuing opportunities to expand its presence in Eastern Europe, the Pacific Rim and other countries where changes in government, fiscal and regulatory policies are making it possible for Merck to earn fair, economic returns. While none of these actions individually has significantly affected operations, the overall impact has been favorable.

Operating Results

SALES

($ in millions)	1992	Change	1991	Change	1990
Human and Animal Health	$9,067.6	+13%	$8,019.5	+13%	$7,120.5
Specialty Chemical	594.9	+ 2%	583.2	+ 6%	551.0
	$9,662.5	+12%	$8,602.7	+12%	$7,671.5

Total sales for 1992 increased 12%, the seventh consecutive year of double-digit growth. Sales volume was up 10%, equal to 1991's volume increase. Foreign currency exchange and price changes each added 1 percentage point to the 1992 sales gain. Total sales for 1991 also increased 12% with price changes contributing 2 percentage points and volume contributing 10 points. Foreign currency exchange had essentially no impact on 1991 sales growth. The effects of changes in the value of foreign currencies are measured net of price increases in hyperinflationary countries, principally in Latin America.

In 1992, sales of Human and Animal Health products grew 13%, with unit volume up 11%. Price and exchange each added 1 percentage point to the increase. Domestic and foreign sales each grew 13%. The overall unit volume gain in this segment reflects strong performance of *Vasotec*, *Vaseretic*, *Prinivil*, *Mevacor*, *Zocor*, *Pepcid*, *Prilosec*, *Primaxin* and vaccine sales, led by *Recombivax HB* for the prevention of hepatitis B.

Vasotec, Merck's angiotensin converting enzyme (ACE) inhibitor for reducing high blood pressure and treating symptomatic heart failure, again established a new Merck product sales record. During 1992, it retained its position as the largest-selling branded product in the antihypertensive market in purchases. *Vaseretic*, a combination of *Vasotec* and hydrochlorothiazide, and *Prinivil*, Merck's second ACE

inhibitor, both prescribed for the treatment of high blood pressure, continued to grow. *Mevacor* and *Zocor*, Merck's cholesterol-lowering agents, continued their outstanding performance, with *Mevacor* maintaining its leadership position among lipid-lowering agents in the United States. *Zocor*, Merck's second cholesterol-lowering agent, demonstrated strong sales performance in 1992. *Zocor* was launched in Japan in the fourth quarter of 1991 and introduced in the United States in January 1992 where it is co-promoted by SmithKline Beecham. *Pepcid*, which is used for the treatment of duodenal and gastric ulcers, is growing rapidly in the United States and maintaining its market share against strong competition abroad. *Prilosec*, a proton pump inhibitor for specific acid-related disorders and short-term treatment of active duodenal ulcers, continued its exceptional growth. It is licensed to Merck for the U.S. market by AB Astra, the research-based Swedish firm. *Primaxin*, Merck's broad-spectrum injectable antibiotic, continued to grow.

Also contributing to the unit volume growth in this segment was *Proscar*, which was introduced in the United States late in the second quarter of 1992. *Proscar* is a significant medical advance in the treatment of symptomatic benign prostate enlargement, a common condition which affects the majority of men over the age of 50. Experience to date in the markets where the product is available is consistent with our expectations that an extensive education program, which is now underway, is required to heighten the awareness of the disease, improve understanding of its natural history and communicate the benefits of treatment with *Proscar* which suggest an arrest in the disease process.

Sales of ivermectin, a broad-spectrum antiparasitic, continued to grow despite depressed economic conditions in the U.S. cattle and Australian sheep markets. A group of longer-established products, including *Clinoril*, *Dolobid*, *Moduretic*, *Mefoxin* and *Aldomet*, while still producing strong revenues, continued to decline in unit volume due to generic and therapeutic competition.

In 1991, sales of Human and Animal Health products grew 13%. Domestic sales growth was 15%, while foreign sales grew 10%. Exchange had essentially no impact on foreign sales growth. Products contributing to the overall unit volume gain were *Vasotec*, *Vaseretic*, *Mevacor*, *Zocor*, *Prinivil*, *Prilosec*, *Pepcid* and *Primaxin*.

Sales of the Specialty Chemical Products segment in 1992 increased 2% over 1991, and were affected by the lack of worldwide economic growth. Sales in 1991 increased 6% over 1990. Exchange had essentially no effect on sales in this segment in 1992 and 1991.

COSTS AND EXPENSES

($ in millions)	1992	Change	1991	Change	1990
Materials and production	$2,096.1	+ 8%	$1,934.9	+ 9%	$1,778.1
Marketing and administrative	2,963.3	+15%	2,570.3	+ 8%	2,388.0
Research and development	1,111.6	+13%	987.8	+16%	854.0
Other (income) expense, net	(72.1)	-26%	(57.0)	-20%	(47.4)
	$6,098.9	+12%	$5,436.0	+ 9%	$4,972.7

In 1992, materials and production costs increased 8% on a 12% sales gain. Excluding the current year effect of accounting changes, exchange and inflation, these costs increased 3% on a 10% unit sales volume gain, reflecting improved product mix and productivity gains. 1992 materials and production costs also included a $91.4 million provision for environmental costs, which was substantially offset by the effect of refinements in product costing to reflect ongoing technological improvements. In 1991, materials and production costs, excluding exchange and inflation, increased 2% on a 10% unit sales volume gain.

Marketing and administrative expenses increased 15% in 1992. Excluding the current year effect of accounting changes, exchange and inflation, these expenses increased 7% in 1992. These expenses increased 2% in 1991 excluding exchange and inflation. A major factor contributing to the higher increase in 1992 was the effect of support initiatives related to new products, partially offset by continuing cost controls.

Research and development expenses increased 13% in 1992. Excluding the current year effect of accounting changes, exchange and inflation, these expenses increased 5% in 1992. The increase reflects the ongoing commitment to research over a broad range of therapeutic areas and clinical development in support of newer products. Not included in consolidated research and development expenses are costs incurred by the Company's joint ventures, which totalled $313.2 million in 1992. In 1991, research and development expenses increased 10% excluding the effects of exchange and inflation.

Research and development in the pharmaceutical industry is inherently a long-term process. The data shown on page 47 shows an unbroken trend of year-to-year increases in research and development spending. For the period 1980 to 1992, the compound annual growth rate in research and development was 15%.

In 1992, other income, net, increased primarily due to income generated from the Company's proportionate share of results from its joint venture investments. To date, such results are still not material. In 1991, other income, net, increased due to higher interest income and interest capitalized on capital projects, partially offset by increased exchange losses resulting from translation of the Company's balance sheet and losses on security sales. See Note 12 to the financial statements for further detail of Other (income) expense, net.

Earnings

($ in millions except per share amounts)	1992[1]	Change[1]	1991	Change	1990
Net income	$2,446.6	+15%	$2,121.7	+19%	$1,781.2
As a % of sales	25.3%		24.7%		23.2%
As a % of average total assets	24.1%		24.2%		24.1%
Earnings per common share	$2.12	+16%	$1.83	+20%	$1.52

[1] *Excludes the cumulative effect of six accounting changes described below. Excluding the current year effect of these changes, both net income and earnings per share growth would have been 17%.*

Net income, excluding the cumulative effect of accounting changes, grew 15% in 1992. Net income, excluding both the cumulative and current year effect of accounting changes, grew 17%, 5 percentage points more than 1992's sales growth rate. In 1991, net income increased 19% over 1990. Net income as a percentage of sales improved to 25.3% in 1992, as compared to 24.7% in 1991 and 23.2% in 1990. Factors contributing to this improving ratio include unit sales volume growth, improved product mix, productivity improvements and continuing cost controls. Foreign currency exchange had a small beneficial impact in 1992, versus a slight negative effect in 1991. A lower effective tax rate also contributed to the improved ratio in all three years. The effective tax rates were 31.3% in 1992, 33.0% in 1991 and 34.0% in 1990. The Company's future effective tax rates could be affected by the U.S. deficit reduction programs that are currently being discussed. Net income as a percentage of average total assets remained fairly constant over the three years with a ratio of 24.1% in 1992, 24.2% in 1991 and 24.1% in 1990. Excluding the cumulative effect of accounting changes, earnings per share in 1992 increased 16%. Excluding both the cumulative and current year effect of accounting changes, earnings per share grew 17%, in line with the net income gain on the same basis. In 1992 and 1991, earnings per share increased at a faster rate than net income as a result of treasury stock purchases.

Worldwide inflation continues to adversely affect the Company. To the extent possible, the Company's position is to try to offset the impact of inflation through productivity and technological improvements, business restructurings, cost containment programs and price increases. The Company believes that sound monetary and fiscal policies, worldwide, would be a major step in avoiding the currency fluctuations that have existed over the last decade (see chart on page 31).

In December 1990, the Financial Accounting Standards Board issued Statement No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions. This Statement requires accrual of the present value of expected costs of these benefits over the employee service period. In 1988, the Company changed from a pay-as-you-go basis to an accrual basis for recognizing the cost of these benefits upon employee retirement. In the fourth quarter of 1992, the Company began accruing for these benefits over the active employees' working lives, by adopting the provisions of Statement No. 106, effective January 1, 1992, which reduced Net income by $370.2 million on an after-tax basis. This change also reduced 1992 Income before cumulative effect of accounting changes by $38.9 million on an after-tax basis. In 1990, the Company began funding a retiree health-care account that will be used to partially pre-fund health-care benefits for retirees.

In February 1992, Statement No. 109, Accounting for Income Taxes was issued. This Statement requires changes in accounting for income taxes and will increase variability in the Company's provision for income taxes. In the fourth quarter, the Company adopted the provisions of Statement No. 109, effective January 1, 1992, which reduced Net income by $62.6 million. The effect of this change on 1992 Income before cumulative effect of accounting changes was not material.

In November 1992, Statement No. 112, Employers' Accounting for Postemployment Benefits was issued. This Statement requires an accrual method of recognizing postemployment benefits such as disability-related benefits. In the fourth quarter, the Company adopted the provisions of Statement No. 112, effective January 1, 1992, which reduced Net income by $29.6 million on an after-tax basis. The effect of this change on 1992 Income before cumulative effect of accounting changes was not material.

The Company believes that it is in compliance in all material respects with applicable environmental laws and regulations. The Company has maintained a leadership role in supporting environmental initiatives and fostering pollution prevention by actions including the reduction of air emissions of carcinogens or suspect carcinogens by 90% at its facilities worldwide and a project currently underway to eliminate these air emissions and reduce all environmental releases of toxic chemicals by 90%. In 1992, the Company incurred capital expenditures of approximately $86.7 million for environmental control facilities. Capital expenditures for this purpose are forecasted to exceed $400.0 million for the years 1993 through 1997. The Company is a party to a number of proceedings brought under the Comprehensive Environmental Response, Compensation and Liability Act, commonly known as Superfund, as well as under other Federal and state statutes. While it is not feasible to predict or determine the outcome of these proceedings, management does not believe that they should ultimately result in a materially adverse effect on the Company's financial position, results of operations, liquidity or capital resources. The Company is also remediating environmental contamination resulting from past industrial activity at certain of its sites. Expenditures for environmental purposes were $29.9 million in 1992, and are estimated at $205.0 million for the years 1993 through 1997. The Company has taken an active role in identifying and providing for these costs; and, therefore, management does not believe that these expenditures should ultimately result in a materially adverse effect on the Company's financial position, results of operations, liquidity or capital resources.

Capital Expenditures

In 1992, capital expenditures were $1,066.6 million compared to $1,041.5 million in 1991. Expenditures in the United States were $784.0 million in 1992 and $716.6 million in 1991. Expenditures during 1992 included $274.0 million for production facilities, $246.7 million for research and development facilities, $98.7 million for safety and environmental projects and $447.2 million for administrative and general site projects. Not included above are capital expenditures incurred by the Company's joint ventures, which totalled $107.5 million in 1992, including $18.4 million for research and development facilities.

Capital authorizations in 1992 were $1,039.7 million, an increase of 24% from 1991's level of $841.2 million. Capital expenditures approved but not yet spent at December 31, 1992, were $876.8 million. These commitments include investments in production facilities ($245.4 million), research and development facilities ($195.0 million), safety and environmental projects ($100.1 million) and administrative and general site projects ($336.3 million).

Expenditures and commitments for administrative and general site projects include those associated with the construction of the Company's new corporate headquarters.

Depreciation was $290.3 million in 1992 and $242.7 million in 1991, of which $201.4 million and $171.7 million, respectively, applied to locations in the United States.

Analysis of Liquidity and Capital Resources

Cash provided by operations continues to be the Company's primary source of funds to finance operating needs and capital expenditures. In 1992, net cash flows from operating activities were $2.5 billion, reflecting the continued growth of the Company's after-tax earnings. This cash was used to fund capital expenditures of $1,066.6 million, to pay Company dividends of $1,064.3 million and to partially fund the purchase of treasury shares. At December 31, 1992, the total of worldwide cash and investments was $2.5 billion, including $1,093.5 million in cash, cash equivalents and short-term investments and $1,415.6 million in long-term investments. The above totals include $715.7 million in cash and investments held by Banyu Pharmaceutical Co., Ltd., in which the Company has a 50.87% ownership interest.

Selected Data

($ in millions)	1992	1991	1990
Working capital	$782.4	$1,496.5	$939.2
Total debt to total liabilities and equity	11.9%	8.8%	11.4%
Cash provided by operations to total debt	1.9:1	2.9:1	2.2:1

Working capital levels are more than adequate to meet the operating requirements of the Company. From 1990 to 1992, the Company has purchased treasury shares under two $1 billion programs authorized by the Board of Directors in 1989 and 1991. Depending upon the amount of such purchases in a particular year, which is related to market conditions ($862.9 million in 1992; $184.1 million in 1991; and $744.8 million in 1990), the Company may from time-to-time increase its short-term borrowings, resulting in periodic reductions in working capital and increases in the ratio of total debt to total liabilities and equity. The favorable ratio of cash provided by operations to total debt is an indication of the ability of the Company to cover its debt obligations.

The Company's strong financial position, as evidenced by its triple-A credit ratings from Moody's and Standard & Poor's on outstanding debt issues, provides a high degree of flexibility in obtaining funds on competitive terms. The ability to finance ongoing operations primarily from internally generated funds is desirable because of the high risks inherent in research and development required to develop and market innovative new products and the highly competitive nature of the pharmaceutical industry.

Through December 31, 1992, $1 billion of shares had been purchased under the treasury stock program authorized by the Board of Directors in February 1991, which is now complete. Since 1984, the Company has purchased 230.0 million shares at a total cost of $3.9 billion. In January 1993, the Board of Directors approved purchases of up to an additional $1 billion of Merck shares.

In 1991, Merck filed a shelf registration with the Securities and Exchange Commission under which the Company could issue up to $500.0 million of debt securities. In addition, the Company registered a $250.0 million Medium-Term Note program under the shelf. Proceeds from the sale of securities are to be used for general corporate purposes. During 1992, Merck issued $100.0 million of five-year noncallable medium-term notes, bearing a coupon of 6.0% payable semi-annually, and $25.0 million of one-year noncallable notes, bearing a coupon of 3.75%, under the shelf registration. In 1991, Merck issued $250.0 million of five-year noncallable notes under the shelf registration, bearing a coupon of 7.75%, payable semi-annually, and $40.0 million of five-year noncallable medium-term notes, at an average coupon of 7.65% payable semi-annually.

Condensed Interim Financial Data

($ in millions except per share amounts)	4th Q	3rd Q	2nd Q	1st Q
1992				
Sales	$2,601.1	$2,464.3	$2,373.7	$2,223.4
Gross profit	2,027.2	1,944.1	1,842.3	1,752.8
Income before taxes and cumulative effect of accounting changes	879.8	910.7	933.0	840.1
Income before cumulative effect of accounting changes	609.1	634.8	643.7	559.0
Net income	609.1	634.8	643.7	96.6
Per share of common stock				
Before cumulative effect of accounting changes	$ .53	$ .55	$ .56	$ .48
Net income	.53	.55	.56	.08
1991				
Sales	$ 2,313.9	$ 2,117.4	$ 2,122.4	$ 2,048.9
Gross profit	1,798.4	1,631.2	1,650.3	1,587.8
Income before taxes	790.7	809.6	826.0	740.4
Net income	529.8	552.4	556.0	483.5
Per share of common stock	$ .46	$ .47	$ .48	$ .42

Condensed Interim Financial Data for the first, second and third quarters of 1992 has been restated to reflect the effect of changes in accounting for postretirement benefits other than pensions, income taxes and postemployment benefits. The effect of the change in accounting for postretirement benefits other than pensions decreased Net income in the first quarter by $379.9 million, or $.33 per share, and $9.7 million, or $.01 per share in the second and third quarters. The effect of the changes in accounting for income taxes and postemployment benefits decreased Net income in the first quarter by $62.6 million ($.05 per share) and $29.6 million ($.03 per share), respectively. The effect of these changes in the second and third quarters was not material.

Dividends Paid Per Share of Common Stock

	Year	4th Q	3rd Q	2nd Q	1st Q
1992	$.92	$.25	$.23	$.23	$.21
1991	.77	.21	18 2/3	18 2/3	18 2/3

Common Stock Market Prices

1992	4th Q	3rd Q	2nd Q	1st Q
High	$47 3/4	$53 3/8	$51 7/8	$56 5/8
Low	40 1/2	42 1/4	45 5/8	47 7/8
1991				
High	$55 5/8	$44 3/4	$41	$36 1/8
Low	42 1/4	38 1/2	34 1/8	27 5/8

The principal market for trading of the common stock is the New York Stock Exchange under the symbol MRK.

Consolidated Statement of Income

Merck & Co., Inc. and Subsidiaries

Years Ended December 31 *($ in millions except per share amounts)*	1992	1991	1990
Sales	$9,662.5	$8,602.7	$7,671.5
Costs and Expenses			
Materials and production	2,096.1	1,934.9	1,778.1
Marketing and administrative	2,963.3	2,570.3	2,388.0
Research and development	1,111.6	987.8	854.0
Other (income) expense, net	(72.1)	(57.0)	(47.4)
	6,098.9	5,436.0	4,972.7
Income Before Taxes and Cumulative Effect of Accounting Changes	3,563.6	3,166.7	2,698.8
Taxes on Income	1,117.0	1,045.0	917.6
Income Before Cumulative Effect of Accounting Changes	2,446.6	2,121.7	1,781.2
Cumulative Effect of Accounting Changes:			
Postretirement benefits other than pensions	(370.2)	—	—
Income taxes	(62.6)	—	—
Postemployment benefits	(29.6)	—	—
Net Income	$1,984.2	$2,121.7	$1,781.2
Earnings Per Share of Common Stock:			
Before Cumulative Effect of Accounting Changes	$2.12	$1.83	$1.52
Cumulative Effect of Accounting Changes:			
Postretirement benefits other than pensions	(.32)	—	—
Income taxes	(.05)	—	—
Postemployment benefits	(.03)	—	—
Net Income	$1.72	$1.83	$1.52

Consolidated Statement of Retained Earnings

Merck & Co., Inc. and Subsidiaries

Years Ended December 31 *($ in millions)*	1992	1991	1990
Balance, January 1	$7,588.7	$6,387.3	$5,394.2
Net Income	1,984.2	2,121.7	1,781.2
Common Stock Dividends Declared	(1,106.9)	(920.3)	(788.1)
Balance, December 31	$8,466.0	$7,588.7	$6,387.3

The accompanying notes are an integral part of these financial statements.

Consolidated Balance Sheet

Merck & Co., Inc. and Subsidiaries

December 31 ($ in millions)	1992	1991
Assets		
Current Assets		
Cash and cash equivalents	$ 575.1	$ 797.9
Short-term investments	518.4	613.9
Accounts receivable	1,736.9	1,545.5
Inventories	1,182.6	991.3
Prepaid expenses and taxes	386.7	362.2
Total current assets	4,399.7	4,310.8
Property, Plant and Equipment, at cost		
Land	210.3	195.7
Buildings	2,122.1	1,483.3
Machinery, equipment and office furnishings	3,435.0	3,002.2
Construction in progress	763.5	925.6
	6,530.9	5,606.8
Less allowance for depreciation	2,259.8	2,102.3
	4,271.1	3,504.5
Investments	1,415.6	1,043.7
Other Assets	999.6	639.5
	$ 11,086.0	$ 9,498.5
Liabilities and Stockholders' Equity		
Current Liabilities		
Accounts payable and accrued liabilities	$ 1,461.9	$ 1,400.4
Loans payable	825.2	338.4
Income taxes payable	1,043.8	831.7
Dividends payable	286.4	243.8
Total current liabilities	3,617.3	2,814.3
Long-Term Debt	495.7	493.7
Deferred Income Taxes and Noncurrent Liabilities	1,343.0	679.7
Minority Interests	627.1	594.6
Stockholders' Equity		
Common stock		
Authorized — 2,700,000,000 shares		
Issued — 1,366,572,924 shares	204.7	185.7
Retained earnings	8,466.0	7,588.7
	8,670.7	7,774.4
Less treasury stock, at cost		
221,878,127 shares — 1992		
207,043,920 shares — 1991	3,667.8	2,858.2
Total stockholders' equity	5,002.9	4,916.2
	$ 11,086.0	$ 9,498.5

The accompanying notes are an integral part of this financial statement.

Consolidated Statement of Cash Flows

Merck & Co., Inc. and Subsidiaries

Years Ended December 31 ($ in millions)	1992	1991	1990
Cash Flows from Operating Activities			
Net income	$ 1,984.2	$2,121.7	$1,781.2
Adjustments to reconcile net income to cash provided from operations:			
Cumulative Effect of Accounting Changes:			
Postretirement benefits other than pensions	370.2	—	—
Income taxes	62.6	—	—
Postemployment benefits	29.6	—	—
Depreciation and amortization	321.4	263.8	254.0
Deferred taxes	(16.6)	1.2	(132.2)
Other	(74.7)	(13.0)	(75.4)
Net changes in assets and liabilities:			
Accounts receivable	(298.4)	(194.7)	(52.0)
Inventories	(177.5)	(98.7)	(112.9)
Accounts payable and accrued liabilities	100.8	226.2	157.1
Income taxes payable	212.6	157.8	205.8
Noncurrent liabilities	108.4	(49.5)	48.2
Other	(118.2)	19.2	(18.2)
Net Cash Provided by Operating Activities	2,504.4	2,434.0	2,055.6
Cash Flows from Investing Activities			
Capital expenditures	(1,066.6)	(1,041.5)	(670.8)
Purchase of securities, subsidiaries and other investments	(5,255.8)	(8,800.6)	(8,563.3)
Proceeds from sale of securities, subsidiaries and other investments	4,983.1	8,518.9	8,227.6
Other	(12.6)	22.6	6.7
Net Cash Used by Investing Activities	(1,351.9)	(1,300.6)	(999.8)
Cash Flows from Financing Activities			
Net change in short-term borrowings	480.0	(590.6)	472.2
Proceeds from issuance of debt	141.3	559.8	17.0
Payments on debt	(121.6)	(94.1)	(14.1)
Purchase of treasury stock	(862.9)	(184.1)	(744.8)
Dividends paid to stockholders	(1,064.3)	(893.2)	(749.4)
Proceeds from exercise of stock options	52.2	48.3	37.8
Other	20.0	15.8	27.6
Net Cash Used by Financing Activities	(1,355.3)	(1,138.1)	(953.7)
Effect of Exchange Rate Changes on Cash and Cash Equivalents	(20.0)	(3.8)	19.2
Net (Decrease) Increase in Cash and Cash Equivalents	(222.8)	(8.5)	121.3
Cash and Cash Equivalents at Beginning of Year	797.9	806.4	685.1
Cash and Cash Equivalents at End of Year	$ 575.1	$ 797.9	$ 806.4

The accompanying notes are an integral part of this financial statement.

($ in millions except per share amounts)

1. Summary of Accounting Policies

Principles of Consolidation — The consolidated financial statements include the accounts of the Company and all of its subsidiaries. For those consolidated subsidiaries where Company ownership is less than 100%, the outside stockholders' interest in each of the Company's accounts is shown as Minority interests in the consolidated financial statements. The Company follows the equity method for 20% or more owned affiliates as well as for investments in joint ventures.

Foreign Currency Translation — The U.S. dollar is the functional currency for the Company's foreign subsidiaries.

Cash and Cash Equivalents and Investments — Cash equivalents are comprised of certain highly liquid investments with a maturity of less than three months. Short-term investments are stated at cost, which approximates fair value. Long-term investments, which are carried at cost, had fair values of $1.5 billion and $1.2 billion at December 31, 1992 and 1991, respectively. Fair values of investments are primarily based on quoted market prices.

Inventories — Substantially all domestic inventories are valued at the lower of last-in, first-out (LIFO) cost or market. Remaining inventories are valued at the lower of first-in, first-out (FIFO) cost or market.

Depreciation — Depreciation is provided over the estimated useful lives of the assets, principally using the straight-line method. For tax purposes, accelerated methods are used.

Taxes on Income — In the fourth quarter, the Company adopted the provisions of Statement No. 109, Accounting for Income Taxes, effective January 1, 1992. The Statement requires that deferred income taxes reflect the tax consequences on future years of differences between the tax bases of assets and liabilities and their financial reporting amounts. Prior to 1992, provisions were made for deferred income taxes where differences existed between the time that transactions affected taxable income and the time that these transactions entered into the determination of income for financial statement purposes.

Earnings Per Share — Earnings per share of common stock are based on the weighted average number of shares outstanding. These weighted averages were 1,153.5 million, 1,159.9 million and 1,172.1 million in 1992, 1991 and 1990, respectively. Shares issuable under stock option and executive incentive award plans do not have a significant dilutive effect.

Intangibles — Intangibles are recorded at cost and are being amortized over their estimated useful lives. Goodwill, representing the excess of acquisition costs over the fair value of net assets of businesses purchased, is amortized on a straight-line basis generally over 40 years.

2. Financial Instruments and Related Disclosures

The Company hedges certain portions of its exposure to foreign currency fluctuations in revenues and net monetary assets and liabilities denominated in foreign currencies through the use of options and forward exchange contracts. Gains and losses arising from the use of such instruments are recorded in the income statement concurrently with gains and losses arising from the underlying hedged attribute. At December 31, 1992 and 1991, the Company had forward exchange contracts and written currency options, generally having maturities of less than two years, to exchange foreign currencies for U.S. dollars in the amount of $1,997.6 million and $850.1 million, respectively. Net unrealized gains/losses from hedging anticipated transactions, based on dealer quoted prices, were not material at December 31, 1992.

The Company grants credit terms in the normal course of business to its customers. Customers for human health products include drug wholesalers and retailers, hospitals, clinics, governmental agencies, managed health-care providers such as health maintenance organizations and other institutions. Customers for the Company's animal health/crop protection products include veterinarians, distributors, wholesalers, retailers, feed manufacturers, veterinary suppliers and laboratories. Concentrations of credit risk with respect to these trade receivables are considered minimal due to the Company's diverse customer base. As part of its ongoing control procedures, the Company monitors the credit worthiness of its customers. Bad debts have been minimal. The Company does not normally require collateral or other security to support credit sales.

3. Inventories

Inventories at December 31 consisted of:

	1992	1991
Finished goods	$ 573.0	$ 519.3
Raw materials and work in process	565.4	509.8
Supplies	64.8	72.5
Total (approximates current cost)	1,203.2	1,101.6
Reduction to LIFO cost	20.6	110.3
	$1,182.6	$ 991.3

The reduction to LIFO cost is less at December 31, 1992 due to refinements in product costing to reflect ongoing technological improvements.

Inventories valued at LIFO comprised approximately 52% of inventories at December 31, 1992 and 1991.

4. Other Assets

Other assets at December 31 consisted of:

	1992	1991
Joint ventures and other investments	$628.9	$389.3
Goodwill and other intangibles	153.5	149.2
Other	217.2	101.0
	$999.6	$639.5

The 1992 increase in joint ventures and other investments primarily relates to the Company's joint venture with E. I. du Pont de Nemours and Company (Du Pont) and investments related to AB Astra (Astra), which are more fully described in Note 5.

5. Strategic Alliances

In 1989, the Company entered into an agreement with Du Pont to form a long-term research and marketing collaboration. Effective January 1, 1991, the Company formed a 50%-owned joint venture with Du Pont, creating an independent, research-driven, worldwide pharmaceutical firm. Du Pont contributed its entire pharmaceutical and radiopharmaceutical imaging agents businesses and is providing administrative services. The Company is providing research and development expertise, development funds, certain European marketing rights to several of its prescription medicines, international industry expertise and cash.

In 1989, the Company formed a joint venture with Johnson & Johnson to develop and mar[illegible] a broad range of non-prescription medicines for U.S. consumers. In January 1990, the joint venture acquired the U.S. self-medication business of ICI Americas Inc., and ICI acquired the U.S. rights to the Company's antidepressant *Elavil*, along with other considerations. The gain from the sale of *Elavil* is included in Other (income) expense, net (See Note 12). In May 1991, Merck and Johnson & Johnson signed an agreement in principle, which was finalized January 1, 1993, to extend their U.S. joint venture agreement to include Europe. In October 1991, the companies acquired certain assets of Woelm Pharma, a leading German self-medication business.

In 1982, the Company entered into an agreement with Astra to develop and market Astra products in the United States, in exchange for a royalty. In the latter part of 1993, if the Company's total sales of Astra products reach a certain level, the Company will form a separate entity for operations related to Astra products. Astra would have the right to acquire a 50% share of the new entity, at which time the Company's royalty obligation would cease. Other than the acquisition price, the contribution of this business to the Company's operations is not expected to have a significant impact on financial results in the near term.

6. Loans Payable and Long-Term Debt

Loans payable at December 31, 1992 included $630.3 million of unsecured Company borrowings, $584.3 million of which is commercial paper. The remainder of the 1992 balance was principally borrowings by foreign subsidiaries. Loans payable increased in 1992 primarily as a result of increased domestic borrowings undertaken to complete the $1 billion treasury stock program approved by the Board of Directors in February 1991.

Long-term debt at December 31, 1992 consisted of $388.4 million in five-year noncallable notes issued under a $500.0 million shelf registration bearing an average coupon of 7.3% payable semi-annually, and $107.3 million of pollution control, industrial revenue financing and foreign borrowings at varying rates of up to 9.8%. Of this latter amount, $31.5 million is due in varying installments through 1997.

The carrying values of loans payable and long-term debt at December 31, 1992, approximate fair values. Fair values are based on interest rates that are currently available to the Company for issuance of debt with similar terms.

7. Contingent Liabilities

The Company is involved in various claims and legal proceedings of a nature considered normal to its business, principally product liability and intellectual property cases. While it is not feasible to predict or determine the outcome of these proceedings, it is the opinion of management that their outcome will have no materially adverse effect on the Company's financial position.

8. Stockholders' Equity

On February 25, 1992, the Board of Directors approved an increase in authorized common shares from 900,000,000 to 2,700,000,000, without par value, and a three-for-one split of the Company's common stock, both effective May 6, 1992. All share and per share amounts for the current and prior periods presented in these financial statements reflect this stock split. The common stock was last split three-for-one effective May 4, 1988.

Common stock increased by $19.0 million, $19.3 million and $14.0 million in 1992, 1991 and 1990, respectively, as a result of issuances of treasury stock for exercises of stock options and distributions under executive incentive plans.

A summary of treasury stock transactions (shares in thousands) follows:

	1992		1991		1990	
	Shares	Cost	Shares	Cost	Shares	Cost
Balance, January 1	207,043.9	$2,858.2	205,599.3	$2,719.3	180,348.3	$2,026.0
Purchases	18,382.6	862.9	4,913.4	184.1	29,521.8	744.8
Issued under stock option and executive incentive plans	(3,548.4)	(53.3)	(3,468.8)	(45.2)	(4,270.8)	(51.5)
Balance, December 31	221,878.1	$3,667.8	207,043.9	$2,858.2	205,599.3	$2,719.3

At December 31, 1992, 1991 and 1990, 10 million shares of preferred stock, without par value, were authorized; none were issued.

9. Stock Option and Executive Incentive Plans

The Company has stock option plans under which key employees and non-employee directors may be granted options to purchase shares of Company common stock at the fair market value at the time of the grant. The stock option program also includes provisions for employees whose contributions are believed critical to the innovation and development of new chemical compounds. These options vest over time, dependent on the accomplishment of specific milestones such as clinical trials or regulatory approval.

In September 1991, during the Company's Centennial year, the Company made a special one-time grant of options to essentially all employees worldwide to purchase 300 shares of stock. A total of approximately 10.5 million options were granted with an exercise price of $42.42, the fair market value at the date of grant. The options are exercisable during the sixth through tenth year after grant for individuals still employed by, or retired from, the Company.

A summary of information relative to the Company's stock option plans follows:

	Number of Shares	Average Price
Outstanding at January 1, 1990	26,152,860	$16.33
Granted	5,578,725	27.25
Exercised	(4,328,016)	9.75
Forfeited	(345,120)	26.00
Outstanding at December 31, 1990	27,058,449	19.51
Granted	15,929,667	42.88
Exercised	(3,349,122)	15.28
Forfeited	(269,670)	29.67
Outstanding at December 31, 1991	39,369,324	29.27
Granted	5,207,761	46.54
Exercised	(3,402,430)	15.80
Forfeited	(790,120)	41.25
Outstanding at December 31, 1992	40,384,535	$32.40
Exercisable at December 31, 1992	24,490,919	$25.38

At December 31, 1992 and 1991, 11,643,476 shares and 3,954,888 shares, respectively, were available for future grants under the terms of these plans.

The Executive Incentive Plan provides for awards to executives and other key employees of cash and deferred awards payable in shares of the Company's common stock and cash. The Plan has a strategic performance feature that provides for awards to key officers and managers who have a direct impact on achieving the Company's long-term objectives. For 1992, total awards under the Plan were $37.5 million. Awards were $38.9 million in 1991 and $29.5 million in 1990. At December 31, 1992, there were 2,811,901 shares available for future awards.

10. Retirement Plans

In addition to required governmental retirement plans, the Company and certain of its subsidiaries have retirement plans for eligible employees that provide benefits based upon age, years of service and compensation. Certain plans also consider primary social security payments in calculating benefits. The expenses for these governmental, Company and subsidiary plans were $241.3 million in 1992, $214.3 million in 1991 and $176.2 million in 1990.

Expenses for Company and subsidiary plans were $81.3 million in 1992, $64.3 million in 1991 and $48.4 million in 1990.

Net pension cost for the Company's plans includes the following components:

	1992	1991	1990
Service cost — benefits earned during the year	$ 86.4	$ 74.5	$ 65.5
Interest cost on projected benefit obligation	123.7	110.4	97.6
Net amortization and deferral	(34.7)	111.2	(166.7)
Actual return on assets	(94.1)	(231.8)	52.0
Net pension cost	$ 81.3	$ 64.3	$ 48.4

The net pension cost attributable to international plans and included above was $30.0 million in 1992, $22.0 million in 1991 and $14.7 million in 1990.

Plan assets at market value exceed the related accumulated benefit obligation. The Company's funding policy for Employee Retirement Income Security Act of 1974 and foreign plans is to contribute amounts to maintain assets in excess of the projected benefit obligations. At December 31, 1992, the plans were essentially fully funded. The plans' assets are diversified in stocks, bonds, real estate and short-term and other investments. The plans' funded status was as follows:

	1992	1991	1990
Plan assets at market value	$1,411.8	$1,356.1	$1,136.8
Accumulated benefit obligation			
Vested	1,048.0	946.8	849.5
Nonvested	145.9	121.2	118.0
	1,193.9	1,068.0	967.5
Plan assets in excess of accumulated benefit obligation	217.9	288.1	169.3
Projected compensation increases	379.3	340.8	277.8
Funded status	(161.4)	(52.7)	(108.5)
Unamortized transitional net asset	(188.6)	(218.8)	(240.2)
Unrecognized net loss	221.5	130.8	190.3
Unrecognized prior service cost	130.5	121.9	116.4
Net pension asset (liability)	$ 2.0	$ (18.8)	$ (42.0)

International plan assets at market value, included in the above table, were $411.5 million in 1992, $394.6 million in 1991 and $343.9 million in 1990. The accumulated benefit obligation of international plans, included in the above table, was $356.3 million in 1992, $291.7 million in 1991 and $248.1 million in 1990.

The discount rate and rate of future compensation increases used in determining the projected benefit obligation and costs were 9% and 6%, respectively, at December 31, 1992, 1991 and 1990. The expected long-term rate of return on plan assets was 10% at December 31, 1992 and 1991, and 9% at December 31, 1990.

In the aggregate, average international plan assumptions do not vary significantly from U.S. rates.

11. Other Postretirement and Postemployment Benefits

The Company provides health-care (in excess of Medicare) and life insurance benefits for eligible active and retired employees, principally in the United States. Prior to 1992, the Company recognized the present value of such health-care costs at the employees' retirement and recognized and funded the cost of life insurance benefits over employees' working lives.

In the fourth quarter, the Company adopted the provisions of Statement No. 106, Employers' Accounting for Postretirement Benefits Other Than Pensions, effective January 1, 1992. This Statement requires accrual over the employee service period of the expected costs of providing postretirement health-care and life insurance benefits.

The cumulative effect at January 1, 1992 of adopting Statement No. 106 reduced Net income by $370.2 million, net of $255.2 million of income tax benefits. The effect of this change reduced 1992 Income before cumulative effect of accounting changes by $38.9 million, net of $26.7 million of income tax benefits. The cost of postretirement benefits other than pensions was $90.4 million in 1992, $24.7 million in 1991 and $18.1 million in 1990. The cost of health-care and life insurance benefits for active employees was $116.3 million in 1992, $102.9 million in 1991 and $92.9 million in 1990.

Net postretirement benefit cost includes the following components:

	1992
Service cost – benefits earned during the year	$31.2
Interest cost on accumulated postretirement benefit obligation	62.9
Net amortization and deferral	(1.9)
Actual return on assets	(1.8)
Net postretirement benefit cost	$90.4

In 1990, the Company began funding a retiree health-care account that will be used to partially pre-fund health-care benefits for retirees. The plans' assets are diversified in stocks, bonds and short-term and other investments. The plans' funded status on December 31 was as follows:

	1992
Plan assets at market value	$ 10.4
Accumulated postretirement benefit obligation:	
Retirees	278.0
Other fully eligible participants	145.8
Other active participants	334.6
	758.4
Funded status	(728.0)
Unrecognized net gain	(1.7)
Unrecognized plan changes	(32.1)
Net postretirement benefit liability	$(761.8)

The discount rate used in determining the accumulated postretirement benefit obligation was 9%. The expected long-term rate of return on plan assets was 10%. The health-care cost trend rate in 1992 was 13%, gradually declining to 6.1% over an 18 year period. The effect of increasing the health-care cost trend rate by one percentage point in each year would increase the accumulated postretirement benefit obligation at December 31, 1992 by $110.0 million and the total service and interest cost components of the 1992 net postretirement benefit cost by $17.0 million.

Also, in the fourth quarter, the Company adopted the provisions of Statement No. 112, Employers' Accounting for Postemployment Benefits. This Statement requires an accrual method of recognizing postemployment benefits such as disability-related benefits.

The cumulative effect at January 1, 1992 of adopting Statement No. 112 reduced Net income by $29.6 million, net of $20.4 million of income tax benefits. The effect of this change on 1992 Income before cumulative effect of accounting changes was not material.

12. Other (Income) Expense, Net

	1992	1991	1990
Interest income	$(138.3)	$(162.5)	$(152.6)
Interest expense	72.7	68.7	69.8
Exchange losses	46.2	31.6	9.6
Minority interests	32.2	25.2	31.5
Other income, net	(84.9)	(20.0)	(5.7)
	$ (72.1)	$ (57.0)	$ (47.4)

Minority interests include third parties' share of exchange gains and losses arising from translation of the financial statements into U.S. dollars.

In 1990, other income, net, includes a $90.0 million gain from the sale of *Elavil*. This gain was largely offset by a provision for environmental costs and certain other costs, including those associated with the 1992 relocation of the Company's corporate headquarters. Other income, net, also includes the Company's proportionate share of results from its joint venture investments. To date, such results have not been material.

Interest paid was $60.8 million in 1992, $71.4 million in 1991 and $64.5 million in 1990.

13. Supplementary Income Statement Information

	1992	1991	1990
Advertising expenses	$277.8	$250.4	$254.2
Taxes, other than income, principally payroll taxes	290.5	262.3	217.3
Repairs, alterations and maintenance	178.5	167.7	150.4
Royalty expenses	176.6	124.9	101.8

14. Taxes on Income

In the fourth quarter, the Company adopted the provisions of Statement No. 109, Accounting for Income Taxes, effective January 1, 1992. The Statement requires that deferred income taxes reflect the tax consequences on future years of differences between the tax bases of assets and liabilities and their financial reporting amounts. The cumulative effect of this change to January 1, 1992, reduced Net income by $62.6 million. The effect of this change on 1992 Income before cumulative effect of accounting changes was not material. Prior to 1992, provisions were made for deferred income taxes where differences existed between the time that transactions affected taxable income and the time that these transactions entered into the determination of income for financial statement purposes.

A reconciliation between the Company's effective tax rate and the U.S. statutory rate follows:

	1992	Tax Rate		
	Amount	1992	1991	1990
U.S. statutory rate applied to pretax income	$ 1,211.6	34.0%	34.0%	34.0%
Differential arising from:				
Tax exemption for Puerto Rico operations	(181.1)	(5.1)	(5.1)	(4.3)
Foreign operations	32.7	.9	2.6	2.1
State taxes	60.7	1.7	2.2	2.0
Other, including minority interests	(6.9)	(.2)	(.7)	.2
	$ 1,117.0	31.3%	33.0%	34.0%

Domestic companies contributed approximately 73% in 1992, 71% in 1991 and 66% in 1990 to consolidated pretax income.

Taxes on income consisted of:

	1992	1991	1990
Current provision:			
Federal	$ 615.1	$ 507.8	$ 567.5
Foreign	411.4	429.9	403.5
State	107.1	106.1	78.8
	1,133.6	1,043.8	1,049.8
Deferred provision:			
Federal	15.3	6.4	(110.2)
Foreign	(17.3)	(6.2)	(19.6)
State	(14.6)	1.0	(2.4)
	(16.6)	1.2	(132.2)
	$1,117.0	$1,045.0	$ 917.6

The components of the deferred provision were:

	1992	1991	1990
Accelerated depreciation	$ 37.6	$ (7.1	$ (3.1)
Inventory related	8.5	(17.8)	(41.8)
Installment sales	—	(11.5)	(11.5)
Leasing activity	(5.5)	(10.3)	(10.6)
Postretirement benefits	(26.9)	3.2	2.2
Other, net	(30.3)	20.5	(67.4)
	$ (16.6)	$ 1.2	$ (132.2)

Deferred income taxes at December 31, 1992 consisted of:

	Assets	Liabilities
Accelerated depreciation	$ —	$365.2
Postretirement benefits	296.0	—
Inventory related	274.6	103.2
Leasing activity	—	82.0
Equity investments	—	70.0
Environmental related	64.9	—
Compensation related	52.1	—
Other, net	350.0	213.9
	1,037.6	834.3
Valuation allowance	(16.6)	—
	$1,021.0	$834.3

At December 31, 1992, current deferred tax assets of $235.6 million and current deferred tax liabilities of $3.3 million were included in Prepaid expenses and taxes and in Income taxes payable, respectively. In addition, noncurrent deferred tax assets of $43.8 million and noncurrent deferred tax liabilities of $89.4 million were included in Other assets and in Deferred income taxes and noncurrent liabilities, respectively.

At December 31, 1991, net current deferred tax benefits of $244.8 million were included in Prepaid expenses and taxes. These deferred taxes primarily consisted of taxes paid or payable on intercompany profits not yet realized in consolidated income. Net noncurrent deferred taxes of $291.4 million were included in Deferred income taxes and noncurrent liabilities relating principally to depreciation and leasing. Income taxes paid in 1992, 1991 and 1990 were $934.4 million, $879.8 million and $830.2 million, respectively.

At December 31, 1992, foreign earnings of $3.1 billion and domestic earnings of $880.9 million have been retained indefinitely by subsidiary companies for reinvestment. No provision is made for income taxes that would be payable upon the distribution of such earnings and it is not practicable to determine the amount of the related unrecognized deferred income tax liability. These earnings include income from manufacturing operations in Ireland, exempt from Irish taxes. The tax exemption expired in 1990; subsequent Irish earnings are taxed at an incentive rate of 10%. In addition, the Company has domestic subsidiaries operating in Puerto Rico under a tax incentive grant that expires in 2008.

The Company's Federal income tax returns have been audited through 1986.

15. Segment Reporting

Industry Segments

	1992	1991	1990
Sales			
Human/Animal Health	$ 9,067.6	$ 8,019.5	$ 7,120.5
Specialty Chemical	594.9	583.2	551.0
	$ 9,662.5	$ 8,602.7	$ 7,671.5
Income Before Taxes and Cumulative Effect of Accounting Changes			
Human/Animal Health	$ 3,361.0	$ 2,996.0	$ 2,570.2
Specialty Chemical	80.5	78.4	67.9
	3,441.5	3,074.4	2,638.1
Nonoperating income, primarily interest	122.1	92.3	60.7
	$ 3,563.6	$ 3,166.7	$ 2,698.8
Assets			
Human/Animal Health	$ 7,053.9	$ 5,849.8	$ 4,810.9
Specialty Chemical	580.3	548.1	508.4
	7,634.2	6,397.9	5,319.3
Cash and investments	2,509.1	2,455.5	2,209.6
Other corporate assets	942.7	645.1	500.9
	$ 11,086.0	$ 9,498.5	$ 8,029.8
Capital Expenditures			
Human/Animal Health	$ 1,017.6	$ 965.8	$ 623.7
Specialty Chemical	49.0	75.7	47.1
	$ 1,066.6	$ 1,041.5	$ 670.8
Depreciation and Amortization			
Human/Animal Health	$ 294.2	$ 230.3	$ 227.9
Specialty Chemical	27.2	33.5	26.1
	$ 321.4	$ 263.8	$ 254.0

There were no intersegment sales. Income before taxes and cumulative effect of accounting changes and assets include both direct and allocated amounts. Common costs and expenses and common assets are allocated in proportion to sales.

Pages 29 through 31 contain a description of the Company's business.

Geographic Segments

	1992	1991	1990
Customer Sales			
Domestic	$ 5,180.1	$ 4,616.4	$ 4,039.1
Foreign — OECD	4,262.4	3,812.1	3,451.3
— Other	220.0	174.2	181.1
Affiliate Sales			
Domestic	1,215.9	1,093.9	948.6
Foreign — OECD	117.5	132.1	112.1
— Other	68.0	38.9	37.6
Eliminations	(1,401.4)	(1,264.9)	(1,098.3)
	$ 9,662.5	$ 8,602.7	$ 7,671.5
Income Before Taxes and Cumulative Effect of Accounting Changes			
Domestic	$ 2,552.4	$ 2,252.2	$ 1,832.5
Foreign — OECD	920.4	832.5	822.5
— Other	7.2	(4.4)	20.5
Eliminations	(38.5)	(5.9)	(37.4)
	3,441.5	3,074.4	2,638.1
Nonoperating income, primarily interest	122.1	92.3	60.7
	$ 3,563.6	$ 3,166.7	$ 2,698.8
Assets			
Domestic	$ 4,976.9	$ 4,187.3	$ 3,492.9
Foreign — OECD	3,124.3	2,770.5	2,363.3
— Other	208.2	132.6	158.8
Cash and investments	2,509.1	2,455.5	2,209.6
Other corporate assets	942.7	645.1	500.9
Eliminations	(675.2)	(692.5)	(695.7)
	$ 11,086.0	$ 9,498.5	$ 8,029.8

Sales to affiliates by the domestic geographic area include products manufactured in the United States and Puerto Rico that are shipped to facilities in foreign countries for manufacture into finished products. Sales to affiliates are at negotiated prices based on specific market conditions. Profits are shown within the geographic areas at the time of sale; such profits, however, are included in consolidated income when a sale is made to a customer. Research and development expenses are included in the geographic area in which the expenses were incurred. Foreign nations in the OECD (Organization for Economic Cooperation and Development) are the Western European countries, Canada, Australia, New Zealand and Japan.

Management's Report

Primary responsibility for the integrity and objectivity of the Company's financial statements rests with management. The financial statements report on management's stewardship of Company assets. These statements are prepared in conformity with generally accepted accounting principles and, accordingly, include amounts that are based on management's best estimates and judgments. Nonfinancial information included in the annual report has also been prepared by management and is consistent with the financial statements.

To assure that financial information is reliable and assets are safeguarded, management maintains an effective system of internal controls and pr[illegible] important elements of which include: careful selectio[illegible]g and development of operating and financial manager[illegible]an organization that provides appropriate division of responsibility; and communications aimed at assuring that Company policies and procedures are understood throughout the organization. In establishing internal controls, management weighs the costs of such systems against the benefits it believes such systems will provide. A staff of internal auditors regularly monitors the adequacy and application of internal controls on a worldwide basis.

To insure that personnel continue to understand the system of internal controls and procedures, and policies concerning good and prudent business practices, the Company periodically conducts the Management's Stewardship Program for key management and financial personnel. This program reinforces the importance and understanding of internal controls by reviewing key corporate policies, procedures and systems. In addition, an ethical business practices program has been implemented to reinforce the Company's long-standing commitment to high ethical standards in the conduct of its business.

The independent public accountants have audited the Company's consolidated financial statements as described in their report. Their audits included a review of the Company's accounting systems, procedures and internal controls, and tests and other auditing procedures sufficient to enable them to render their opinion on the Company's financial statements.

The recommendations of the internal auditors and independent public accountants are reviewed by management. Control procedures have been implemented or revised as appropriate to respond to these recommendations. No material control weaknesses have been brought to the attention of management. In management's opinion, as of December 31, 1992, the internal control system was strong and accomplished the objectives discussed herein.

Roy Vagelos

P. Roy Vagelos, M.D.
Chairman and Chief Executive Officer

Judy C. Lewent

Judy C. Lewent
Senior Vice President and Chief Financial Officer

Report of Independent Public Accountants

To the Stockholders and
Board of Directors of Merck & Co., Inc.:

We have audited the accompanying consolidated balance sheets of Merck & Co., Inc. (a New Jersey Corporation) and subsidiaries as of December 31, 1992 and 1991, and the related consolidated statements of income, retained earnings and cash flows for each of the three years in the period ended December 31, 1992. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Merck & Co., Inc. and subsidiaries as of December 31, 1992 and 1991, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1992, in conformity with generally accepted accounting principles.

As discussed in the accompanying notes to financial statements, effective January 1, 1992, the Company adopted three new accounting standards promulgated by the Financial Accounting Standards Board, changing its methods of accounting for postretirement benefits other than pensions, income taxes and postemployment benefits.

Arthur Andersen & Co.

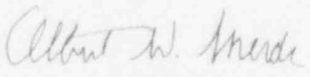
New York, New York
January 26, 1993

ARTHUR ANDERSEN & CO.

Audit Committee's Report

The Audit Committee of the Board of Directors is comprised of six outside directors. The members of the Committee are: Albert W. Merck, Chairman; Charles E. Exley Jr., Vice Chairman; Sir Derek Birkin; Carolyne K. Davis, Ph.D.; William N. Kelley, M.D.; and Dennis Weatherstone. The Committee held three meetings during 1992.

The Audit Committee meets with the independent public accountants, management and internal auditors to assure that all are carrying out their respective responsibilities. The Audit Committee reviews the performance and fees of the independent public accountants prior to recommending their appointment, and meets with them, without management present, to discuss the scope and results of their audit work, including the adequacy of internal controls and the quality of financial reporting. Both the independent public accountants and the internal auditors have full access to the Audit Committee.

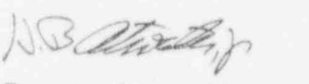


Albert W. Merck
Chairman, Audit Committee

Compensation and Benefits Committee's Report

The Compensation and Benefits Committee is comprised of five outside directors. The members of the Committee are: H. Brewster Atwater Jr., Chairman; Richard S. Ross, M.D., Vice Chairman; Lawrence A. Bossidy; William G. Bowen, Ph.D.; and Ruben F. Mettler, Ph.D. The Committee held five meetings during 1992.

The Compensation and Benefits Committee's major responsibilities include providing for senior management succession and overseeing the Company's compensation and benefit programs. The Committee seeks to provide rewards which are highly leveraged to performance and clearly linked to Company and individual results. The objective is to ensure that compensation and benefits are at levels which enable Merck to attract and retain high quality employees. The Committee views stock ownership as a vehicle to align the interests of employees with those of the stockholders. A long-term focus is essential for success in the pharmaceutical industry and is encouraged by making a high proportion of executive officer compensation dependent on long-term performance and on enhancing stockholder value.



H. Brewster Atwater Jr.
Chairman, Compensation and Benefits Committee

Selected Financial Data

Merck & Co., Inc. and Subsidiaries

($ in millions except per share amounts)	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982
Results for Year:											
Sales	$9,662.5	$8,602.7	$7,671.5	$6,550.5	$5,939.5	$5,061.3	$4,128.9	$3,547.5	$3,559.7	$3,246.1	$3,063.0
Materials and production costs	2,096.1	1,934.9	1,778.1	1,550.3	1,526.1	1,444.3	1,338.0	1,272.4	1,424.5	1,263.4	1,222.2
Marketing/administrative expenses	2,963.3	2,570.3	2,388.0	2,013.4	1,877.8	1,682.1	1,269.9	1,009.0	945.5	905.1	892.2
Research/development expenses	1,111.6	987.8	854.0	750.5	668.8	565.7	479.8	426.3	393.1	356.0	320.2
Other (income) expense, net	(72.1)	(57.0)	(47.4)	(46.7)	(4.2)	(36.0)	(32.1)	(17.2)	9.8	25.6	27.8
Income before taxes	3,563.6	3,166.7	2,698.8	2,283.0	1,871.0	1,405.2	1,073.3	857.0	786.8	696.0	600.6
Taxes on income	1,117.0	1,045.0	917.6	787.6	664.2	498.8	397.6	317.1	293.8	245.1	185.5
Net income[1]	2,446.6	2,121.7	1,781.2	1,495.4	1,206.8	906.4	675.7	539.9	493.0	450.9	415.1
Per share of common stock[2]	$2.12	$1.83	$1.52	$1.26	$1.02	$.74	$.54	$.42	$.37	$.34	$.31
Dividends on common stock:											
Declared	1,106.9	920.3	788.1	681.5	546.3	365.2	278.5	235.1	224.0	210.8	207.1
Paid per share[2]	$.92	$.77	$.64	$.55	$.43	$.27	$.21	$.18	$.17	$.16	$.16
Capital expenditures	1,066.6	1,041.5	670.8	433.0	372.7	253.7	210.6	237.6	274.4	272.8	295.1
Depreciation	290.3	242.7	231.4	206.4	189.0	188.5	167.2	163.6	151.6	135.2	121.1
Year-End Position:											
Working capital	782.4	1,496.5	939.2	1,502.5	1,480.3	798.3	1,094.3	1,106.6	1,076.5	734.9	860.4
Property, plant and equipment (net)	4,271.1	3,504.5	2,721.7	2,292.5	2,070.7	1,948.0	1,906.2	1,882.8	1,912.8	1,715.2	1,557.5
Total assets	11,086.0	9,498.5	8,029.8	6,756.7	6,127.5	5,680.0	5,105.2	4,902.2	4,590.6	4,214.7	3,655.4
Long-term debt	495.7	493.7	124.1	117.8	142.8	167.4	167.5	170.8	179.1	385.5	337.3
Stockholders' equity	5,002.9	4,916.2	3,834.4	3,520.6	2,855.8	2,116.7	2,541.2	2,607.7	2,518.6	2,409.9	2,180.2
Financial Ratios:											
Net income as a % of:											
Sales	25.3%	24.7%	23.2%	22.8%	20.3%	17.9%	16.4%	15.2%	13.8%	13.9%	13.6%
Average total assets[1]	24.1%	24.2%	24.1%	23.2%	20.4%	16.8%	13.5%	11.4%	11.2%	11.5%	11.9%
Year-End Statistics:											
Average number of shares of common stock outstanding *(in millions)*[2]	1,153.5	1,159.9	1,172.1	1,188.3	1,186.9	1,221.2	1,253.9	1,282.7	1,322.0	1,331.0	1,331.7
Number of stockholders	161,200	91,100	82,300	75,600	68,500	56,900	48,300	47,000	50,200	51,800	55,200
Number of employees	38,400	37,700	36,900	34,400	32,000	31,100	30,700	30,900	34,800	32,600	32,000

[1] *1992 amounts exclude the cumulative effect of the accounting changes described on page 33.*
[2] *All share and per share amounts for 1991 and prior periods have been restated to reflect the three-for-one stock split in 1992.*

Divisional and Corporate Officers

Merck Human Health Division

Jerry T. Jackson
President

David W. Anstice
Senior Vice President
Europe

Richard J. Lane
Senior Vice President
and President
U.S. Human Health

Gerald S. Levey, M.D.
Senior Vice President
Medical and Scientific Affairs

Henri Lipmanowicz
Senior Vice President
Intercontinental Region

Louis M. Sherwood, M.D.
Senior Vice President
Medical and Scientific Affairs
U.S. Human Health

Per Wold-Olsen
Senior Vice President
Human Health Marketing

Michael M. Tarnow
President
Merck Frosst Canada Inc.

Simon X. Benito
Vice President
MHHD-Japan

J. Martin Carroll
Vice President
Marketing
U.S. Human Health

Peter G. Ernster
Vice President
Business Planning,
Economics and Development

Robert O. Hills
Vice President
Business Strategy and Policy
U.S. Human Health

James P. Hoffman, M.D.
Vice President
Medical Services
U.S. Human Health

Michel Iguer
Vice President
Middle East,
Near East and Africa

Roy D. Karnovsky
Vice President
Specialty Products

Jerome C. Keller
Vice President
Sales
U.S. Human Health

Hector Lopez Pardo
Vice President
Latin America

Errol S. McKinney
Vice President
New Products

Robert G. Ruark Jr.
Vice President
Administration

Ivan L. Rubin
Vice President
Business Management
and Development
U.S. Human Health

Lars Viksmoen, M.D.
Vice President
ACE Products

Grey F. Warner
Vice President
Cholesterol Reducers

Merck Research Laboratories

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President

Bennett M. Shapiro, M.D.
Executive Vice President
Worldwide Basic Research

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Senior Vice President
Basic Research

Charles C. Leighton, M.D.
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Administration, Planning
and Science Policy

Cecil B. Pickett, Ph.D.
Senior Vice President
Basic Research

Ichiro Shinkai, Ph.D.
Senior Vice President
Process Research
and Development
MSDRL-Japan

Mervyn J. Turner, Ph.D.
Senior Vice President
Basic Research

Tai Akera, M.D., Ph.D.
Vice President
MSDRL-Japan

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Vice President
Biochemistry

Paul S. Anderson, Ph.D.
Vice President
Medicinal Chemistry

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D.V.M., Ph.D.
Vice President
Safety Assessment

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Vice President
Neuroscience Research Center

K. Chiu Kwan, Ph.D.
Vice President
Drug Metabolism

Arthur A. Patchett, Ph.D.
Vice President
Exploratory Chemistry

W. John Powell Jr., M.D.
Vice President
Clinical Research

Christian R.H. Raetz,
M.D., Ph.D.
Vice President
Basic Research
Biochemistry and Microbiology

Thomas N. Salzmann,
Ph.D.
Vice President
Basic Chemistry

Eve E. Slater, M.D.
Vice President
Clinical and
Regulatory Development

Reynold Spector, M.D.
Vice President
Clinical Pharmacology
and Endocrinology

Alan R. Williamson, Ph.D.
Vice President
Basic Research
Immunology and Inflammation

Kenneth P. Wolski, M.D.
Vice President
Strategy and Policy

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President

David A. Conklin
Senior Vice President
and President
Chemical Manufacturing

Stanley J. Fidelman
Senior Vice President
Engineering, Safety
and the Environment

Joseph W. Keating
Senior Vice President
and President
Pharmaceutical Manufacturing

Bernard J. Kelley
Senior Vice President
Administration,
Planning and Quality

James J. Behen III
Vice President
Administration
Chemical Manufacturing

Dorothy P. Bowers
Vice President
Environmental and
Safety Policy

Richard S. Bowles III, Ph.D.
Vice President
Quality

Richard T. Clark
Vice President
Materials Management and
Management Engineering

Stephen W. Drew, Ph.D.
Vice President
Technical Operations
and Engineering
Chemical Manufacturing

Paul B. Goodall
Vice President
Safety and the Environment

Michael L. King, Ph.D.
Vice President
North American Operations
Pharmaceutical Manufacturing

Michel S. Michailidis, Ph.D.
Vice President
International Manufacturing
Chemical Manufacturing

Jerold L. Morris
Vice President
European Operations
Pharmaceutical Manufacturing

Andrew Quinn
Vice President
Canadian Operations

Byron L. Roe
Vice President
Central Engineering

Carlos B. Rosas
Vice President
Engineering and Technology
Pharmaceutical Manufacturing

Vijay B. Samant
Vice President
Business Affairs

Benson L. Trobaugh
Vice President
Domestic Manufacturing
Chemical Manufacturing

Merck AgVet Division

Eugene F. McCabe
President
(Retired 4/1/93)

John M. Preston,
D.V.M., Ph.D.
President

Anthony Viscusi
Senior Vice President
Marketing

Max E. Gauphichon
Vice President
International Operations

E. Donald Griffin
Vice President
U.S. Operations

James H. Wakelin III
Vice President
Business Affairs

Stanley M. Hawkins
President
Hubbard Farms, Inc.

Merck Vaccine Division

R. Gordon Douglas Jr.,
M.D.
President
and Vice President
Merck & Co., Inc.

Robert J. Glaser
Vice President
Marketing and Sales

C. Boyd Clarke
General Manager
Pasteur Merieux/Merck Affairs

Astra/Merck Group

Wayne P. Yetter
General Manager

David H. Bescherer
Vice President
Finance and Administration

Robert M. Cohen
Vice President
Information Technology

Matthew W. Emmens
Vice President
Marketing and Sales

Kenneth C. Frazier
Vice President
General Counsel

Irwin Scher, M.D.
Vice President
Drug Development
and Medical Affairs

Calgon Corporation
Water Management Division

A. Fred Kerst, Ph.D.
President

Frank A. Daniher
Vice President
Research and Development

Timothy H. Moody
Vice President
Domestic Sales

Robert J. Southgate
Vice President
International and
Functional Sales

Calgon Vestal Laboratories

Walter R. Maupay Jr.
President

Thomas J. Cini
Vice President
Healthcare

Kelco Division

Paul F. Mosher
President

Peter Kovacs
Senior Vice President

Thomas R. Andrew
Vice President
Administration

Jurgen G. Dominik
Vice President
Production and
International Operations

Norman O. Jangaard
Vice President
Research and Development

Nicholas B. Wiseman
Vice President
North American and
Oil Field Marketing

Merck Consumer Healthcare Group

Ronald A. Ahrens
President

Corporate

Clarence A. Abramson
Vice President and Secretary

Albert D. Angel
Vice President
Public Affairs

Michael G. Atieh
Treasurer

Steven M. Darien
Vice President
Human Resources

Joseph M. Fox
Assistant to Chairman

G. Theodore Mascott
Vice President
Venture Planning

Mario A. Monaco
Vice President
Intellectual Property

Peter E. Nugent
Vice President
Corporate Tax

R. Teel Oliver
Vice President
Government Relations

Charles Popper, Ph.D.
Vice President
Corporate Computer Resources

Timothy D. Proctor
Vice President and
Associate General Counsel

Edward J. Sot
Controller

Board of Directors

P. Roy Vagelos, M.D.
Chairman and Chief Executive Officer Merck & Co., Inc. (E)*

Richard J. Markham
President and Chief Operating Officer Merck & Co., Inc. (E, T)

H. Brewster Atwater Jr.
Chairman and Chief Executive Officer General Mills, Inc. (C, T)

Sir Derek Birkin
Chairman of the Board The RTZ Corporation PLC London, England (A)

Lawrence A. Bossidy
Chairman and Chief Executive Officer AlliedSignal Inc. (A)

William G. Bowen, Ph.D.
President, The Andrew W. Mellon Foundation (C)

Carolyne K. Davis, Ph.D.
International Health Care Consultant (A)

Lloyd C. Elam, M.D.
Professor of Psychiatry Meharry Medical College (E, A)

Charles E. Exley Jr.
Retired (formerly Chairman and Chief Executive Officer) NCR Corporation (A, E, T)*

John J. Horan
Director (formerly Chairman and Chief Executive Officer) Merck & Co., Inc. (E, T)

William N. Kelley, M.D.
Chief Executive Officer University of Pennsylvania Medical Center (A)

Albert W. Merck
Trustee of [illegible] (A)*

Ruben F. Mettler, Ph.D.
Director (formerly Chairman and Chief Executive Officer) TRW Inc. (E, C, T)*

Richard S. Ross, M.D.
Dean Emeritus of the Medical Faculty The Johns Hopkins University School of Medicine (C, T)

Dennis Weatherstone
Chairman J.P. Morgan & Co. Incorporated and Morgan Guaranty Trust Company of New York (A)

E = Executive Committee
A = Audit Committee
C = Compensation and Benefits Committee
T = Treasury Stock Committee
** = Chairman*
*** = Vice Chairman*

Executive Officers

Chairman's Staff

P. Roy Vagelos, M.D.
Chairman of the Board and Chief Executive Officer

Richard J. Markham
President and Chief Operating Officer

Jerry T. Jackson
Executive Vice President and President, Merck Human Health Division

Edward M. Scolnick, M.D.
Executive Vice President and President Merck Research Laboratories

Francis H. Spiegel Jr.
Executive Vice President

John L. Zabriskie, Ph.D.
Executive Vice President and President Merck Manufacturing Division

Judy C. Lewent
Senior Vice President and Chief Financial Officer

Mary M. McDonald
Senior Vice President and General Counsel

Management Council

These 30 senior executives who serve on Merck's Management Council are pictured at the Company's new headquarters in Whitehouse Station, N.J. They coordinate and integrate Company activities. The members of the Chairman's Staff, who are shown in the first row, deal with strategic issues. First row from left: Edward M. Scolnick, M.D., Jerry T. Jackson, Judy C. Lewent, Richard J. Markham, P. Roy Vagelos, M.D., Mary M. McDonald, Francis H. Spiegel Jr. and John L. Zabriskie, Ph.D. Second row from left: Clarence A. Abramson, Ronald A. Ahrens, Albert D. Angel, David W. Anstice, Michael G. Atieh, Simon X. Benito, David A. Conklin, Steven M. Darien, R. Gordon Douglas Jr., M.D., Stanley J. Fidelman and Joseph W. Keating. Third row from left: Bernard J. Kelley, Richard J. Lane, Gerald S. Levey, M.D., Henri Lipmanowicz, Eugene F. McCabe, Peter E. Nugent, John M. Preston, D.V.M., Ph.D., Bennett M. Shapiro, M.D., Edward J. Sol, Michael M. Tarnow and Per Wold-Olsen.

Merck in 1992

Most Admired Corporation

For the seventh year in a row, Merck was rated America's most admired corporation in Fortune magazine's annual Corporate Reputations Survey of more than 8,000 senior executives, outside directors and financial analysts.

Best in Technological Achievement

The National Medal of Technology, the nation's highest honor for technological achievement, was awarded to Merck by the President of the United States for "sustained innovation focusing on the discovery, development and worldwide commercialization of superior human and animal health products while maintaining proper concern for the environment."

Outstanding Environmental Achievement

The National Wildlife Federation honored Merck with its Environmental Achievement Award. Cited were Merck's voluntary toxic emission reduction goals and landmark agreement with Costa Rica's National Institute for Biodiversity which will help that country protect its natural resources.

High-Performance in Information Technology

CIO, a magazine for information executives, named Merck to its "High-Performance 100" list for outstanding achievement in information technology management and overall financial performance.

Best for Working Mothers

For the sixth consecutive year, Merck was listed by Working Mother magazine as one of the top 10 employers of working mothers in America, the only company with that distinction.

Best for... Blacks to Work

Black Enterprise magazine lists Merck as one of the leading corporations that offer the best opportunities for black professionals.

Support of Minority Business Development

The National Minority Business Development Council recognized Merck for its support of minority and women-owned businesses.

Tops in Pharmaceutical Manufacturers

For the third straight year, Merck was rated tops in a survey of pharmaceutical manufacturers by American Druggist magazine. Merck finished number one in all six categories: buying terms, marketing policies, product quality, in-store detailing, providing product information and product research.

Corporate Information

Stockholders' Meeting

The 1993 Annual Meeting of Stockholders will be held at the Edward Nash Theatre at Raritan Valley Community College, Route 28 and Lamington Road, North Branch, N.J., on Tuesday, April 27, at 2 p.m. A notice of the meeting, proxy statement and proxy voting card have been mailed to stockholders with this Annual Report.

Form 10-K Annual Report

A copy of Merck's 1992 Form 10-K Annual Report as filed with the Securities and Exchange Commission is available upon request after March 31, 1993, by writing:
Merck & Co., Inc.
Stockholder Services Dept.
P.O. Box 100–WS3AB-40
One Merck Drive
Whitehouse Station, NJ
08889-0100

Stockholder Records, Dividend Reinvestment and Cash Payment Plan

Correspondence concerning holdings, lost or missing dividend checks, the Dividend Reinvestment and Cash Payment Plan and change of address should be directed to:
Merck & Co., Inc.
Stockholder Services Dept.
P.O. Box 100–WS3AB-40
One Merck Drive
Whitehouse Station, NJ
08889-0100

Cash payments for dividend reinvestment should be directed to:
Norwest Bank Minnesota, N.A.
P.O. Box 120
South St. Paul, MN
55075-0120

Transfer Agent and Registrar

Norwest Bank Minnesota, N.A.
Stock Transfer
P.O. Box 120
161 North Concord Exchange
South St. Paul, MN
55075-0120

Correspondence concerning transfer requirements and lost certificates should be directed to the above address.

Notice to Stockholders

Starting in 1993, Merck & Co., Inc. will consolidate its three quarterly reports to stockholders into one mid-year report.

Independent Public Accountants

Arthur Andersen & Co.
1345 Avenue of the Americas
New York, NY
10105

Trademarks

All product names appearing in type form different from that of the surrounding text are trademarks owned by or licensed to Merck & Co., Inc., its subsidiaries or affiliates.

Merck & Co., Inc.

P.O. Box 100
One Merck Drive
Whitehouse Station, NJ
08889-0100

Printed in the U.S.A. on Recycled Paper
Design: Inc Design, New York City

MATERIALS LICENSE

Amendment No. 27

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Merck and Company, Inc. Merck, Sharp & Dohme Research Laboratories, R80 2. Health Physics Department (HDQ) P.O. Box 2000 Rahway, New Jersey 07065	In accordance with the letter dated August 26, 1993, 3. License number 29-00117-06 is amended in its entirety to read as follows: 4. Expiration date July 31, 1995 5. Docket or Reference No 030-14680

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Any byproduct material with Atomic Numbers 1 through 83	A. Any	A. Not to exceed 50 millicuries per radionuclide and 1 curie total
B. Hydrogen 3	B. Any	B. 1,000 curies
C. Carbon 14	C. Any	C. 100 curies
D. Phosphorus 32	D. Any	D. 500 millicuries
E. Sulfur 35	E. Any	E. 10 curies
F. Calcium 45	F. Any	F. 100 millicuries
G. Chromium 51	G. Any	G. 100 millicuries
H. Nickel 63	H. Any	H. 250 millicuries
I. Technetium 99	I. Any	I. 100 millicuries
J. Iodine-125	J. Any	J. 2 curies
K. Iodine-131	K. Any	K. 200 millicuries
L. Xenon 133	L. Any	L. 500 millicuries
M. Cesium 137	M. Any	M. 1 curie
N. Molybdenum 99/ Technetium 99m	N. Generators	N. 4 curies
O. Americium 241	O. Any	O. 5 millicuries
P. Hydrogen 3	P. Foils in detector cells	P. Not to exceed 200 millicuries per foil and 1 curie total
Q. Nickel 63	Q. Foils or plated sources in detector cells	Q. Not to exceed 15 millicuries per foil or source and 1 curie total
R. Gadolinium 153	R. Sealed sources (Lunar Model GD series)	R. Not to exceed 1.5 curies per source and 3 curies total
S. Iodine 125	S. Sealed sources (Amersham Model IMC.P2)	S. Not to exceed 300 millicuries per source and 1.2 curies total

(6., 7., & 8. continued)

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
T. Cesium 137	T. Sealed sources (Amersham Model No. 77302)	T. Not to exceed 150 millicuries per source and 300 millicuries total

9. Authorized use

A. through O. Research and development as defined in 10 CFR 30.4(q); animal studies; manufacture of labelled compounds and transfer of the compounds to individuals authorized to receive the material by the terms and conditions of a specific license issued by the U.S. Nuclear Regulatory Commission or an Agreement State.

P. and Q. For use in gas chromatographs for sample analysis.

R. For use in Lunar Model DP3 or DP4 Bone Mineral Analyzer for Non Human use.

S. For use in Lunar Model SP2 Bone Mineral Analyzer for Non Human use.

T. For use in an Amersham Model 773 Instrument Calibrator for calibration of instruments.

CONDITIONS

10. Licensed material may be used only at the licensee's facilities at 126 East Lincoln Avenue, Rahway, New Jersey; Sumneytown Pike, West Point, Pennsylvania; Branchburg Farm, 203 River Road, Somerville, New Jersey; and Three Bridges Experimental Farm, Hillsborough Road, Three Bridges, New Jersey.

11. A. Licensed material shall be used by, or under the supervision of, individuals designated in writing by the Radiation Safety Committee. The licensee shall maintain records of individuals designated as users for three years after the last use of licensed material by the individual.

B. The Radiation Safety Officer for this license for the Rahway, New Jersey facility is Glenn Sturchio, Ph.D., and for the West Point, Pennsylvania facility is John Miller.

12. Licensed material shall not be used in or on human beings.

13. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.

14. Notwithstanding Condition 13, the licensee may use licensed material for field studies at the Three Bridges Experimental Farm, Three Bridges, New Jersey, in accordance with statements, representations, and procedures contained in letters with attachments dated August 13, 1982, and September 22, 1989.

(Continued)

CONDITIONS

15. Experimental animals, or the products from experimental animals, that have been administered licensed materials shall not be used for human consumption.

16. Notwithstanding 10 CFR 33.17(a)(4), the licensee is authorized to manufacture drugs containing radioactive material for distribution to specific licensees.

17. Replacement-exchange of the Lunar Bone Mineral Analyzer's source/source-holder combination may be performed by the licensee in accordance with the instructions contained in the manufacturer's manual.

18. A. Sealed sources and detector cells containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed three years.

B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed three months.

C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.

D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.

E. Sealed sources and detector cells need not be leak tested if:

(i) they contain only hydrogen-3; or

(ii) they contain only a radioactive gas; or

(iii) the half-life of the isotope is 30 days or less; or

(iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or

(v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

(18. continued)

CONDITIONS

F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source or detector cell shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source or detector cell involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.

G. The licensee is authorized to collect leak test samples for analysis by the licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

19. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license. Records of inventories shall be maintained for five years from the date of each inventory, and shall include the quantities and kinds of byproduct material, manufacturer name and model numbers, location of sources and/or devices, and the date of the inventory.

20. A. Detector cells containing a titanium tritide foil or a scandium tritide foil shall only be used in conjunction with a properly operating temperature control mechanism which prevents the foil temperatures from exceeding that specified in the certificate of registration referred to in 10 CFR 32.210.

B. When in use, detector cells containing a titanium tritide foil or a scandium tritide foil shall be vented to the outside.

21. In lieu of using the conventional radiation caution colors (magenta or purple on yellow background) as provided in 10 CFR 20.203(a)(1), the licensee is hereby authorized to label detector cells, containing licensed material and used in gas chromatography devices, with conspicuously etched or stamped radiation caution symbols.

22. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR 71, "Packaging and Transportation of Radioactive Material."

23. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash, provided:

A. Waste to be disposed of in this manner shall be held for decay a minimum of ten half-lives.

(23. continued) CONDITIONS

B. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

C. A record of each such disposal shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.

D. Generator columns shall be segregated so that they may be monitored separately to ensure decay to background levels prior to disposal.

E. Notwithstanding the half-life requirement in Condition 18, the licensee is authorized to hold calcium-45 possessed on November 13, 1987 as liquid waste absorbed on vermiculate for decay-in-storage in accordance with Condition 23.A. and 23.B.

24. Pursuant to 10 CFR 20.106(b) and 20.302, the licensee is authorized to dispose of licensed material by incineration at the Rahway, New Jersey and West Point, Pennsylvania facilities provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table II, 10 CFR Part 20. Ash residues may be disposed of as ordinary waste provided appropriate surveys pursuant to 10 CFR 20.201 are made to determine that concentrations of licensed material appearing in the ash residues do not exceed the concentrations (in terms of microcuries per gram) specified for water in Appendix B, Table II, 10 CFR 20.

25. Pursuant to 10 CFR 20.106(b) and 20.302, the licensee is authorized to dispose of licensed material by incineration at the Branchburg, New Jersey facility provided the gaseous effluent from incineration does not exceed the limits specified for air in Appendix B, Table II, 10 CFR Part 20.

(Continued)

CONDITIONS

26. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Letter dated August 13, 1982 included in application dated August 25, 1988
B. Application dated August 25, 1988
C. Letter dated September 22, 1989
D. Letter dated December 27, 1989
E. Letter dated January 14, 1991
F. Letter dated July 6, 1992
G. Letter dated August 11, 1992
H. Letter dated February 25, 1991
I. Letter dated June 14, 1991
J. Letter dated August 26, 1993

Date NOV 1 2 1993

For the U.S. Nuclear Regulatory Commission
Original Signed By:
By Elizabeth Ullrich
Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

AUG 17 1993

Docket Nos. 030-14680
030-17552
License Nos. 29-00117-06
37-01531-08
Mail Control Nos. 113032
113033

Merck Sharp & Dohme Research Laboratories
ATTN: Charles C. Leighton, M.D.
Senior Vice President
P.O. Box 2000
Rahway, New Jersey 07065

Dear Dr. Leighton:

Subject: Financial Assurance

This is in reference to your letter dated July 25, 1990 to provide financial assurance for License Nos. 29-00117-06 and 37-01531-08. We have reviewed your submittal and request that you modify these documents to address the specific matters listed below:

1. **Submit additional detail to support the cost estimates**

   a. Although you outlined the work required to decommission the facilities, you did not break down the total cost estimates by major decommissioning activity. In order to provide sufficient information to support the overall cost estimate, please specify the following information:

      (1) Specify whether the labor cost estimates included costs of planning and preparation and of conducting a final radiation survey.

      (2) Specify whether the costs of labor and shipping are included in the estimate of disposal costs.

      (3) The size of the laboratories and the number/volume of laboratory components.

Please use or adapt the "Cost Estimating Tables" in Appendix F of NRC's Regulatory Guide 3.66 to demonstrate that you have provided reasonable cost estimates for all major decommissioning activities. Also, your waste disposal costs should be updated using current (1993) disposal costs and surcharges.

b. Page 3 of your decommissioning funding plan lists your estimates for decommissioning and low-level radioactive waste disposal. You may have underestimated your costs due to low estimates of the number of person-days required, the amount of required equipment, and the wastes generated in decontaminating your facilities.

Appendices A and E of NUREG/CR-1754, Addendum 1, provide tables for estimating the number of person-days required, the costs of equipment and supplies, and the quantity of waste generated in decontaminating individual facility components (i.e., there are individual time, cost, and waste generation estimates for decontaminating floors, ceilings, walls, fume hoods, laboratory benches, etc.).

Based on these tables and the information in your cost estimate, the cost to decontaminate your facilities and dispose of waste may be considerably higher than your estimate. Please review NUREG/CR and submit an updated cost estimate or explain why your estimate is more appropriate.

2. **Incorporate a contingency factor into the total decommissioning cost estimate and confirm that no credit was taken for salvage value**

You apparently have not made allowance in the cost estimate for contingencies. Regulatory Guide 3.66 recommends, on page 1-10, that a contingency factor be included in the decommissioning cost estimate. Incorporating a contingency factor in the cost estimate will help to ensure that you are prepared for unexpected circumstances that could raise decommissioning costs. NUREG/CR-1754 uses a contingency factor of 25 percent in its cost estimates for each of six reference laboratories. Please incorporate a contingency factor of 25 percent into the decommissioning cost estimates. You may choose to use a lower contingency factor if you can show why a lower factor is appropriate. Furthermore, confirm that you have not included in the cost estimate credit for any salvage value that may be realized from the sale of potential assets after decommissioning (see page 1-11 of Regulatory Guide 3.66).

3. **Submit an alternate method of financial assurance, or clarify that a parent-subsidiary relationship exists under which the parent guarantee mechanism is allowed**

Your submission clearly states that the licensee, Merck Sharp & Dohme Research Laboratories, is a "division" of the guarantor, Merck & Company, Inc. A division of a company is an operating arm of a diversified company rather than a subsidiary of a diversified parent company. In an introductory letter accompanying the submission, Charles C. Leighton, M.D., the licensee's Senior Vice President, states that:

> "Merck Sharp & Dohme Research Laboratories is a division of Merck & Company, and therefore the enclosed Financial Assurance Documents are provided by Merck & Company, Inc."

Thus, it appears that the guarantor, Merck & Company, Inc., is seeking to guarantee the decommissioning costs associated with licenses held by its own operating divisions and units.

As stated in 10 CFR 30.35(f)(2), however, a parent company guarantee, like the surety and insurance methods of financial assurance, must "guarantee that decommissioning costs will be paid should the licensee default." The preamble to the decommissioning rule explains that the parent guarantee mechanism is only allowed when the parent company provides "an independent commitment beyond that of the licensee to expend funds" (53 Federal Register 24036, June 27, 1988). Therefore, a parent-subsidiary relationship must exist between a guarantor and a licensee in order for the parent guarantee to be a valid method of financial assurance under NRC regulations.

Submit another type of financial assurance mechanism unless you can demonstrate a bona fide parent-subsidiary relationship between guarantor and licensee. In order to use the parent guarantee mechanism, the licensee must provide evidence in the form of incorporation agreements (i.e., copies of submissions to the appropriate State Corporation Commission) or a corporate resolution certifying that the licensee and its parent guarantor are separate and distinct corporate entities.

In the event that you are able to demonstrate the eligibility to use the parent company guarantee, then you should modify the submission as described below.

4. **Submit a different financial test demonstration or submit a different method of financial assurance**

In using Alternative II of the financial test, the guarantor lists bond ratings from Standard and Poor's (S&P) and Moody's for both long and short-term bonds, which the guarantor states, it has been issuing in lieu of long-term bonds since 1988. Since Merck and Company is attempting to use a commercial paper rating rather than a bond rating to pass the financial test requirement, no date is provided for the issuance of bond or maturity of bond in Lines 3 and 4 of the test demonstration.

The use of a commercial paper rating does not meet the requirements for Alternative II of the financial test as stipulated in 10 CFR Part 30, Appendix A, II.B. This provision states that the requirements of Alternative II can only be met using the current Moody's or Standard and Poor's rating of the guarantor's most recent bond issuance. Commercial paper is short-term in nature, and cannot be considered a bond.

5. **Submit a letter from the licensee's chief executive officer**

Section 4.7.1 of Regulatory Guide 3.66 recommends that the licensee submit a letter from its chief executive officer (CEO). In this letter, the licensee must certify that it is a going concern, identify the amount of its tangible net worth, specify whether the firm is required to file a Form 10K with the U.S. Securities and Exchange Commission, and list the date on which the firm's fiscal year ends. The submission, however, includes a letter from the CEO of the guarantor rather than the licensee. If you are eligible to use the parent company guarantee (see Item 3), submit a letter from your own CEO.

6. **Submit a parent company guarantee agreement**

You did not submit the Parent Guarantee Agreement itself which establishes the terms and conditions of the guarantee. If you are eligible to use the parent company guarantee, submit a signed and dated Parent Guarantee Agreement. The wording of the parent guarantee should closely follow that found on pages 4-41 through 4-44 of Regulatory Guide 3.66.

7. **Revise financial test demonstration to include all facilities for which Merck & Company will provide a corporate guarantee**

The financial test provided as part of the CFO's letter lists the decommissioning cost estimates for all facilities (License Numbers 29-00117-06 and 37-01531-08) as $7.2 million. This number includes the decommissioning cost estimates for four facilities. However, in a submission previously reviewed, Merck & Company provided a corporate guarantee for Merck Chemical Manufacturing Division's facility in Elkton, Virginia, License Number 45-03302-01, in the amount of $750,000. The Elkton facility is not mentioned in this submission. In order to ensure that the parent company has adequate funds to cover all decommissioning costs for which it has provided a guarantee, the CFO's letter and corresponding financial test must account for all of the assured costs for which the guarantor may be liable -- at least $750,000 plus the costs for the facilities addressed in this submission. Thus, if you are eligible to use the parent company guarantee, submit a new financial test demonstrating that the guarantor can provide financial assurance for all facilities for which it has provided a corporate guarantee.

8. **Submit a standby trust agreement and related documentation**

If the licensee defaults on its decommissioning obligations, the guarantor, under Recital 7 of the parent company guarantee agreement in Section 4.7.6 of Regulatory Guide 3.66, must either (1) carry out required decommissioning activities or (2) make funds available in a trust fund to allow NRC to pay for these activities. If the guarantor chooses the second option, it must establish a trust fund because funds paid directly to NRC must be deposited in the U.S. Treasury and are not available for decommissioning costs. To ensure that a trust fund will be readily available if and when needed, the Regulatory Guide 3.66 states that a standby trust fund should be used with a parent company guarantee. Please submit a Standby Trust Agreement, acknowledgement, and other related documents as recommended in Regulatory Guide 3.66 on pages 4-18 through 4-27.

9. **Required documentation in support of a self-guarantee and scheduler exemption request for the period of rulemaking**

If you decide to resubmit documents in support of a self-guarantee you would need to include a request for a schedular exemption from the regulations that specify acceptable financial assurance mechanisms, until completion of the self-assurance mechanism rulemaking, which while ongoing, is not expected to be complete for some time. To qualify for this option you must submit:

a. A specific request to use a self-guarantee and to be exempted from the requirements of 10 CFR 30.35(f)

b. Documentation that the licensee passes a financial test which includes:

(1) Tangible net worth of at least 1 billion dollars.

(2) Tangible net worth at least 10 times the total decommissioning cost estimate for all decommissioning activities for which the company is responsible as self-guaranteeing licensee and as parent-guarantor, or the current amount required if certification is used.

(3) Assets located in the United States amounting to at least 90 percent of total assets or at least 10 times the total current decommissioning cost estimate for all decommissioning activities for which the company is responsible as self-guaranteeing licensee and as parent-guarantor, or the current amount required if certification is used.

(4) A current rating for its most recently issued bonds of AAA, AA, or A as issued by Standard and Poor's (S&P) or Aaa, Aa, or A as issued by Moody's.

(5) At least one class of equity securities registered under the Securities Exchange Act of 1934.

c. Copies of all reports filed with the Securities and Exchange Commission under Section 13 of the Securities Exchange Act of 1934.

d. Documentation that the company's independent certified public accountant has compared the data used by the licensee in the financial test with the licensee's independently audited year end financial statements.

e. A commitment that the licensee will repeat and successfully pass the financial test within 90 days after the close of each succeeding fiscal year.

f. A commitment by the licensee to notify NRC within 90 days of any matters coming to the attention of the auditor that cause the auditor to believe that the data specified in the financial test should be adjusted and that the company no longer passes the test.

There can be no guarantee that the exemption will be granted.

Satisfactory financial assurance is required for your licenses. Therefore, we request that you respond within 30 calendar days of the date of this letter. Please reply in duplicate to my attention at the Region I office and refer to Mail Control No. 113032 and 113033.

If you have any questions regarding this letter, please contact Anthony Dimitriadis of my staff at (215) 337-6953.

Sincerely,

Original Signed By:
John D. Kinneman

John D. Kinneman, Chief
Research Development and
Decommissioning Section
Division of Radiation Safety
and Safeguards

Enclosures:
1. Regulatory Guide 3.66
2. NUREG/CR-1754
3. NUREG/CR-1754, Addendum 1

bcc:
J. Kinneman, RI

DRSS:RI
Dimitriadis/smh
08/16/93

DRSS:RI
Kinneman
08/17/93

UNITED STATES

WASHINGTON D C 20555

AUG 8 1991

MEMORANDUM FOR: John Kinneman, Chief
Nuclear Material Safety
Section Branch
Division of Radiation Safety
and Safeguards, Region I

FROM: Louis Bykoski
Division of Low-Level Waste Management
and Decommissioning, NMSS

SUBJECT: THE OFFICE OF GENERAL COUNSEL (OGC) AND CONTRACTOR COMMENTS ON NONSTANDARD FINANCIAL ASSURANCE SUBMITTALS

Our contractor, ICF Incorporated, and OGC have received and provided comments on thirteen Region I nonstandard financial assurance submittals sent to us for review. The following licensees are included in the mailing.

REGION I

1. U. S. Army Medical Research Institute of Chemical Defense (DFP - statement of intent);
2. Merck Sharp & Dohme Research Laboratories (DFP-parent company guarantee);
3. GTE Products Corporation (DFP-parent company guarantee);
4. Applied Health Physics, Inc. (DFP - line of credit);
5. EG&G, Inc. (DFP - letter of credit);
6. AT&T Network Systems (DFP - letter of credit);
7. Worcester Foundation for Experimental Biology (DFP - trust agreement);
8. Union Carbide Chemicals and Plastics Company (parent company guarantee);
9. Textron Defense Systems (parent company guarantee);
10. New England Deaconess Hospital Corporation (parent company guarantee);
11. General Hospital Corporation (parent company guarantee);
12. The Budd Company (parent company guarantee; and
13. Boehringer Ingelheim Pharmaceuticals, Inc. (parent company guarantee)

The ICF comments are presented in two parts. The first part deals with specific recommendations to correct deficiencies. The second part (Other Issues) provides a discussion of changes to the standard wording that are acceptable and are not considered to be deficiencies. The OGC comments include additional deficiencies that need to be corrected by the licensee and comments for our internal use.

You should carefully review the comments before preparing the deficiency letter. We have enclosed more specific information to help you sort and consolidate the ICF and OGC comments.

Should you have any further questions with regard to the comments, please call me on (301) 492-0572 or Michael Finkelstein of OGC on (301) 492-1623.

Louis Bykoski

Louis Bykoski
Division of Low-Level Waste Management
and Decommissioning, NMSS

Enclosure: As stated.

MS20
L3
29-00117-0L

LIST OF INSTRUCTIONS

Merck Sharp & Dohme Research Laboratories

In reviewing the comments the reviewer will note that there will be some overlap between ICF and OGC comments. The following comments should be included in the basis for the deficiency letter:

1. ICF comments 1 through 9 plus the last paragraph.

2. All OGC comments.

All other comments and discussions are for reviewer information.

113032
08-08-91

July 30, 1991

Memo to: Louis Bykoski, NMSS

From: Michael Finkelstein, OGC

Re: Review of Package #8 (ICF Reviews dated May 31, 1991)

Mercke Sharp & Dohme Research Labs- Parent Co. Guarantee

The Parent Company Guarantee may not be used as a method of financial assurance by this licensee because the corporation guarantees the availability of funds to decommission facilities operated by a division of the corporation. Self guarantees are not permitted under the decommissioning rule.

All ICF recommendations should be implemented. ICF's assumption as to site restoration, stabilization and surveillance is again premature. The regional reviewer should verify the validity of this assumption. A contingency factor of 25% is recommended.

Long-term (retired) bond ratings may not be used to satisfy the financial test requirements of the Parent Company Guarantee.

9300 Lee Highway
Fairfax, Virginia
22031-1207

703/934-3000

ICF INCORPORATED

May 31, 1991

To: Dr. Lou Bykoski, NMSS/NRC

From: Bryan Kelleher and John Collier, ICF Incorporated

Subject: Review of DFP and Parent Company Guarantee/Financial Test Submitted by Merck Sharp & Dohme Research Laboratories

---

Merck Sharp & Dohme Research Laboratories in Rahway, New Jersey submitted a decommissioning funding plan (DFP) using a parent company guarantee and financial test demonstration from Merck & Company, Inc., in the amount of $7,171,154. The submission assures estimated decommissioning costs of that amount for licenses 29-00117-06 and 37-01531-08 issued under 10 CFR Part 30. As discussed below, however, the use of the parent guarantee method of financial assurance does not appear to be acceptable because the licensee is a division of Merck & Company and is not a wholly-owned subsidiary. Upon review of the submission, ICF recommends that NRC Region I require the licensee to modify the submission in the following ways:

(1) Submit additional detail to support the cost estimates;

(2) Incorporate a contingency factor into the total decommissioning cost estimate and clarify that no credit was taken for salvage value; and

(3) Submit an alternate method of financial assurance, or clarify that a parent-subsidiary relationship exists under which the parent guarantee mechanism is allowed.

In the event that the licensee is able to demonstrate its eligibility to use the parent company guarantee, then ICF recommends that NRC also require the licensee to modify its submission as described below.

(4) Submit a different financial test demonstration or submit a different method of financial assurance;

(5) Submit guarantor's annual financial statements and auditor's opinion;

(6) Submit a new letter from the licensee's chief executive officer;

(7) Submit a parent company guarantee agreement;

(8) Revise financial test demonstration to include all facilities for which Merck & Company will provide a corporate guarantee; and

(9) Submit a standby trust agreement and related documentation.

These recommendations and other issues are discussed below.

(1) Submit Additional Detail to Support the Cost Estimates

Although the licensee outlined the work required to decommission its facilities, it did not break down its total cost estimates by major decommissioning activity or provide sufficient information to support its overall cost estimate.[1] The licensee did not specify whether its labor cost estimates included costs of planning and preparation and of conducting a final radiation survey. The licensee also did not specify whether the costs of labor and shipping are included in its estimates of disposal costs. Finally, the licensee did not provide detailed information on the size of its laboratories or on the number and volume of laboratory components. ICF, therefore, could not evaluate whether the licensee included reasonable cost estimates for all major decommissioning activities in its overall decommissioning cost estimate.

ICF recommends that NRC require the licensee to use or adapt the "Cost Estimating Tables" in Appendix F of NRC's *Regulatory Guide 3.66* "Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70, and 72," June 1990, to demonstrate that it has provided reasonable cost estimates for all major decommissioning activities.

(2) Incorporate a Contingency Factor into the Total Decommissioning Cost Estimate and Clarify that No Credit Was Taken for Salvage Value

The licensee apparently has not made any allowance in its cost estimate for contingencies. *Regulatory Guide 3.66* recommends, on page 1-10, that a contingency factor be included in the decommissioning cost estimate. Incorporating a contingency factor in the cost estimate will help to ensure that the licensee is prepared for unexpected circumstances that could raise decommissioning costs. NUREG/CR-1754 uses a contingency factor of 25 percent in its cost estimates for each of six reference laboratories.[2] ICF recommends that the licensee incorporate a contingency factor of 25 percent

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[1] ICF assumes that the licensee will not need to restore contaminated areas on facility grounds, stabilize the site, or perform long-term surveillance to properly decommission its facility because the licensee did not identify the need to conduct such activities in its decommissioning funding plan.

[2] NUREG/CR-1754, Addendum 1, Technology, Safety and Costs of Decommissioning Reference Non-Fuel-Cycle Nuclear Facilities: Compendium of Current Information, Pacific Northwest Laboratory, October 1989.

into its decommissioning cost estimates. The licensee may choose to use a lower contingency factor if it can show why a lower factor is appropriate. Furthermore, the licensee should clarify that it has not included in its cost estimate credit for any salvage value that may be realized with the sale of potential assets after decommissioning (see page 1-11 of *Regulatory Guide 3.66*).

(3) **Submit an Alternate Method of Financial Assurance, or Clarify that a Parent-Subsidiary Relationship Exists Under Which the Parent Guarantee Mechanism Is Allowed**

The submission clearly states that the licensee is a "division" of the guarantor. A division of a company is an operating arm of a diversified company rather than a subsidiary of a diversified parent company. In an introductory letter accompanying the licensee's submission, Charles C. Leighton, M.D., the licensee's Senior Vice President, states that:

> "Merck Sharp & Dohme Research Laboratories is a division of Merck & Co., Inc., and therefore the enclosed Financial Assurance Documents are provided by Merck & Co., Inc."

Thus, it appears that the guarantor is seeking to guarantee the decommissioning costs associated with licenses held by its own operating divisions and units.

As stated in 10 CFR 30.35(f)(2), however, a parent company guarantee, like the surety and insurance methods of financial assurance, must "guarantee that decommissioning costs will be paid should the licensee default." The preamble to the decommissioning rule explains that the parent guarantee mechanism is only allowed when the parent company provides "an independent commitment beyond that of the licensee to expend funds" (53 Federal Register 24036, June 27, 1988). Therefore, a parent-subsidiary relationship must exist between a guarantor and a licensee in order for the parent guarantee to be a valid method of financial assurance under NRC regulations.

ICF recommends that NRC require the licensee to submit another type of financial assurance mechanism unless the licensee can demonstrate a bona fide parent-subsidiary relationship between guarantor and licensee. In order to use the parent guarantee mechanism, the licensee must provide evidence in the form of incorporation agreements (i.e., copies of submissions to the appropriate State Corporation Commission) or a certified corporate resolution certifying that the licensee and its parent guarantor are separate and distinct corporate entities.

In the event that the licensee is able to demonstrate its eligibility to use the parent company guarantee, then ICF recommends that NRC also require the licensee to modify its submission as described below.

(4) Submit A Different Financial Test Demonstration or Submit a Different Method of Financial Assurance

In using Alternative II of the financial test, the guarantor lists bond ratings from S&P and Moody's for both long and short-term bonds. The guarantor states in a footnote to the financial test demonstration that it no longer issues long-term bonds, and that the most recent bond issuance was fully redeemed (retired) in 1989. Because the long-term bond issue is no longer active, the long-term bond rating given cannot be used as part of the financial test demonstration.

The short-term bond rating is for commercial paper which, the guarantor states, it has been issuing in lieu of long-term bonds since 1988. Because Merck and Company is attempting to use a commercial paper rating rather than a bond rating to pass the financial test requirement, no date is provided for the issuance of bond or maturity of bond in Lines 3 and 4 of the test demonstration.[3]

The use of a commercial paper rating does not meet the requirements for Alternative II of the financial test as stipulated in 10 CFR Part 30, Appendix A, II.B. This provision states that the requirements of Alternative II can only be met using the current Moody's or Standard and Poor's rating of the guarantor's most recent bond issuance. Commercial paper is short-term in nature, and cannot be considered a bond. ICF is not aware of any research analyzing the suitability of substituting commercial paper ratings for bond ratings for purposes of the corporate financial test. In the absence of proof of such suitability, ICF recommends that NRC disallow the use of Alternative II of the financial test by Merck and Company and require either that another method of passing the financial test be demonstrated (i.e., Alternative I of the test, which does not require a bond rating) or that another financial assurance mechanism be submitted.

(5) Submit Guarantor's Annual Financial Statements and Auditor's Opinion

Although the submission includes a special report from the independent auditor confirming that the financial data in the letter from the chief financial officer (CFO) agrees with the amounts in the audited financial statements, the submission does not include the audited financial statements or an auditor's opinion of the financial statements. *Regulatory Guide 3.66*, on page 3-21, requires the guarantor to submit its financial statements, audited by an independent certified accountant, to substantiate its financial position.

If the annual financial statements have not received a "clean" opinion from the independent auditor, then the data derived from those statements in

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[3] Commercial paper is a very short-term debt instrument (often issued on an overnight basis) issued by corporations to cover short-term liquidity needs. While these debt instruments are rated by Moody's and Standard and Poor's, the rating systems for commercial paper and long-term bonds are different.

the CFO's letter may not fairly represent the financial condition of the guarantor. In order to determine whether the data used in the financial test fairly present the guarantor's financial condition, ICF recommends that NRC require the submission of the guarantor's annual financial statements, along with the auditor's opinion on those statements.

(6) Submit a New Letter from the Licensee's Chief Executive Officer

Section 4.7.1 of *Regulatory Guide 3.66* requires the licensee to submit a letter from its chief executive officer (CEO). In this letter, the licensee must certify that it is a going concern, identify the amount of its tangible net worth, specify whether the firm is required to file a Form 10K with the U.S. Securities and Exchange Commission, and list the date on which the firm's fiscal year ends. The submission, however, includes a letter from the CEO of the guarantor rather than the licensee; this letter refers to the parent corporation, Merck & Co., Inc. If the licensee is eligible to use the parent company guarantee (see Recommendation 3), ICF recommends that NRC require the licensee to submit a letter from its own CEO referencing the licensee firm.

(7) Submit a Parent Company Guarantee Agreement

The licensee did not submit documentation of the parent guarantee agreement itself. It is the guarantee document that establishes the terms and conditions of the guarantee. If the licensee is eligible to use the parent company guarantee, ICF recommends that NRC require the licensee to submit a signed and dated parent guarantee agreement. The wording of the parent guarantee should closely follow that found on pages 4-41 through 4-44 of *Regulatory Guide 3.66*.

(8) Revise Financial Test Demonstration to Include All Facilities for Which Merck & Company will Provide a Corporate Guarantee

The financial test provided as part of the CFO's letter lists the decommissioning cost estimates for all facilities (license numbers 29-00117-06 and 37-01531-08) as $7.2 million. This number incudes the decommissioning cost estimates for the four facilities covered by this submission. However, in a submission previously reviewed by ICF (delivered to NRC on January 31, 1991), Merck & Company provided a corporate guarantee for Merck Chemical Manufacturing Division's facility in Elkton, Virginia (license 45-03302-01), in the amount of $750,000. The Elkton facility is not mentioned in this submission.[4] In order to ensure that the parent company has adequate funds to cover all decommissioning costs for which it has provided a guarantee, the CFO's letter and corresponding financial test must account for all of the assured costs for which the guarantor may be liable -- at least $750,000 plus the costs already addressed by this submission. Thus, if the licensee is eligible to use the parent company guarantee, ICF recommends that NRC require the licensee to submit a new financial test demonstrating that the guarantor

[4] Similarly, the previous submission did not mention the facilities addressed by this submission.

can provide financial assurance for all facilities for which it has provided a corporate guarantee.

(9) Submit a Standby Trust Agreement and Related Documentation

If the licensee defaults on its decommissioning obligations, the guarantor, under Recital 7 of the parent company guarantee agreement in Section 4.7.6 of *Regulatory Guide 3.66*, must either (1) carry out required decommissioning activities or (2) make funds available in a trust fund to allow NRC to pay for these activities. If the guarantor chooses the second option, it must establish a trust fund because funds paid directly to NRC must be deposited in the U.S. Treasury and are not available for decommissioning costs. To ensure that a trust fund will be readily available if and when needed, the *Regulatory Guide 3.66* states that a standby trust fund should be used with a parent company guarantee. Thus, if the licensee is eligible to use the parent company guarantee, ICF recommends that NRC request the licensee to submit a standby trust fund, acknowledgement, and other related documents as recommended in *Regulatory Guide 3.66* on pages 4-18 through 4-27.

Other Issues

Apart from editorial and non-substantive changes to the standard wording provided in the *Regulatory Guide 3.66*, the following modifications are noteworthy:

(1) Under 10 CFR 30.35(e), the licensee is required to describe the means it will use to adjust decommissioning cost estimates and associated funding levels over the life of the facility. The licensee states that adjustments to the amount of space subject to decommissioning requirements will be made annually, and that adjustments for the type and levels of radioactive materials used in the facilities will be made when warranted. The licensee also states that the records of the cost estimate will be updated at approximately five year intervals during license renewals. NRC may wish to ask the licensee to add a more specific reference stating that it will update the cost estimate for inflation at specific intervals, although updating for inflation may be implied given that the discussion of updates is presented in a section labeled "inflation."

(2) The CFO's letter does not have the recommended reference to the corporate guarantee. In addition, it does not contain the full addresses or license numbers in paragraph 2. Although not critical to the terms of the test or guarantee (assuming the guarantee and financial test are satisfactorily modified), NRC may wish to require the license numbers and addresses to be added to the letter for clarification in case the guarantor submits other guarantees and financial test demonstrations for other licenses.

Finally, the Region should ensure that documents submitted by the licensee are originally signed duplicates, as recommended in *Regulatory Guide 3.66*. Unless the documents have been properly signed, NRC cannot be certain that the financial assurance mechanism is enforceable. Because ICF does not possess the original submissions, we cannot verify compliance with these requirements.

attachments

REVIEW OF DECOMMISSIONING FUNDING PLAN (DFP)

Name of company or institution: Merck Sharp + Dohme Research Laboratories

Number of licenses and applicable regulations:

2	10 CFR Part 30
	10 CFR Part 40
	10 CFR Part 70
	10 CFR Part 72

Isotopes handled and possession limits (specify units):

^{3}H	^{109}Cd	
^{14}C	^{54}Mn	(possession limits not specified)
^{45}Ca	^{63}Ni	
^{22}Na	^{40}K	
^{36}Cl	^{65}Zn	^{85}Sr
^{241}Am	^{137}Cs	^{141}Ce
^{99}Tc	^{153}Gd	^{133}Ba
		^{60}Co

Total cost estimate for licenses listed above: $ 7,171,154.00

General comments on DFP:
Covers labs at 4 sites.

CHECKLIST FOR REVIEWING DECOMMISSIONING FUNDING PLANS (DFP's)

QUESTIONS	COMMENTS
(1) Does the licensee provide supporting documentation for its cost estimates? ✓ Yes ___ No	
(2) Does the licensee use the Appendix F "Cost Estimating Tables?" ___ Yes ✓ No	
(3) Does the cost estimate include the following major cost elements?	
(i) Planning and Preparation? ___ Yes ___ No	Not clear if "Labor Cost" includes planning and preparation.
(ii) Decontamination and/or Dismantling of Radioactive Facility Components? ✓ Yes ___ No	
(iii) Packaging, Shipping, and Disposal of Radioactive Wastes? ✓ Yes ___ No	Disposal costs included. Labor costs not broken out by activity.
(iv) Restoration of Contaminated Areas on Facility Grounds? ___ Yes ___ No ✓ NA	Activity assumed not applicable because licensee does not mention it or associated costs.
(v) Final Radiation Survey? ___ Yes ___ No	Not clear if this is included in labor costs.
(vi) Site Stabilization, Long-Term Surveillance? ___ Yes ___ No ✓ NA	Activity assumed not applicable because licensee does not mention it or related costs.

CHECKLIST FOR REVIEWING DFP's (continued)

QUESTIONS	COMMENTS
(4) Is the total cost estimate reasonable for the type(s) and size(s) of facility licensed? ____ Yes ____ No ✓ Not Sure	More information should be provided on size of laboratories, volume and number of components.
(5) Are the cost estimates for individual facility activities and/or components reasonable? ____ Yes ____ No ✓ Not Sure	Estimate not broken down by lab, activity or components. Only breakdown is by labor and LLRW disposal. Specify activities covered by labor estimate (ex. planning + preparation, decontamination, packaging waste for disposal, final radiation survey). Specify whether disposal costs include transportation.

CHECKLIST FOR REVIEWING DFP's (continued)

QUESTIONS	COMMENTS
(6) Do the computations seem correct? ✓ Yes ___ No	
(7) Does the licensee take credit for the potential salvage value of recovered materials or decontaminated equipment? ___ Yes ✓ No	Salvage value not mentioned.
(8) Does the licensee include a contingency factor in the cost estimate? ___ Yes ✓ No	Estimate includes overhead, but no contingency factor mentioned.
(9) Does the licensee provide a description of the methods that will be used to adjust the decommissioning cost estimate periodically over the life of the facility? ✓ Yes ___ No	Space adjustment made annually. Cost estimate records updated every five years. Method for making inflation adjustments not specified.

APPENDIX A
CHECKLIST FOR DECOMMISSIONING FINANCIAL ASSURANCE

NAME OF LICENSEE OR APPLICANT Merck Sharp and Dohme Research Laboratories

MAILING ADDRESS 126 E. Lincoln Avenue

Rahway, NJ 07065

A. Licensee Part (check one of the following):

X Part 30 Licensee or Applicant ____ Part 70 Licensee or Applicant

____ Part 40 Licensee or Applicant ____ Part 72 Licensee or Applicant

B. Check appropriate item in each category (if applicable)

1. 7/27/90 Date of Financial Assurance Submission (rev July 26, 1990)

2. ____ Public Entity

X Private Entity

3. ____ Certification of Financial Assurance

X Decommissioning Funding Plan $7,171,154

4. (a) ____ Prepayment Option (See Appendix B)
   - ____ Trust Fund
   - ____ Escrow Account
   - ____ Certificate of Deposit
   - ____ Government Fund
   - ____ Deposit of Government Securities

   (b) X Surety/Insurance/Other Guarantee (See Appendix C) $7,171,154
   - ____ Surety bond
   - ____ Letter of Credit
   - ____ Line of Credit
   - X Parent Company Guarantee/Financial Test*

   (c) ____ External Sinking Fund, Sinking Account and Surety/Insurance (See Appendix D)
   - ____ Trust Fund
   - ____ Escrow Account
   - ____ Certificate of Deposit
   - ____ Government Fund
   - ____ Deposit of Government Securities
   - ____ Surety Bond
   - ____ Letter of Credit
   - ____ Line of Credit

   (d) ____ Statement of Intent (public entities only)

*May not be used in combination with any other instrument.

APPENDIX C

CHECKLIST FOR SUBMISSION OF SURETY/INSURANCE/PARENT COMPANY GUARANTEE

A. Check Appropriate Form of Surety/Insurance/Guarantee

___ Surety Bond

___ Letter of Credit

___ Line of Credit

X Parent Company Guarantee/Financial Test*

___ Insurance

B. Check Documents Submitted for Surety/Insurance/Guarantee

1. Surety Bond
   ___ Surety Bond
   ___ Standby Trust Agreement
   ___ Acknowledgement

2. Letter of Credit
   ___ Letter of Credit
   ___ Standby Trust Agreement
   ___ Acknowledgement

3. Line of Credit
   ___ Verification
   ___ Standby Trust Agreement
   ___ Acknowledgement

4. Parent Company Guarantee
   X Letter from Chief Executive Officer of Applicant or Licensee - identical wording but from CEO of Parent Company
   X Letter from Chief Financial Officer of Parent Company different wording
   X Financial Test: Alternative [I or (II)] different wording
   X Auditor's Special Report and Attached Schedule different wording
   ___ Corporate Guarantee
   ___ Standby Trust Agreement
   ___ Acknowledgement

5. Insurance
   ___ Certificate of Insurance
   ___ Standby Trust Agreement
   ___ Acknowledgement

May not be used in combination with any other instrument.

EXHIBIT 3-8

CHECKLIST OF CRITERIA FOR REVIEW OF PARENT COMPANY GUARANTEES

No Corporate Guarantee Submitted!

- ✓ Copy of letter from the chief executive officer of the licensee, verifying that it is a going concern* with positive tangible net worth (submitted annually at same time as parent company financial test in Sections 4.7.3 and 4.7.4 of this guide).

- ✓ Copy of corporate by-laws or other evidence indicating that parties signing the financial instrument (for the applicant) are authorized to represent the organization in the transaction.

Attachment

- Evidence that the financial instrument is an originally signed duplicate (e.g., an executed copy of the instrument).

NRC Region should verify

- Evidence that the corporate parent has majority control of the applicant's voting stock.

- Name and address of guarantor.
- Name and address of the licensee.
- Name and address of the regulatory agency.
- Recitation of the guarantor's authority to provide the guarantee, such as ownership of the licensee.

no guarantee submitted

- ✓ Identification of the facilities for which the guarantee provides financial assurance and amounts guaranteed for decommissioning activities. CEO's letter

*A "going concern" is a firm that is expected to continue operating at least long enough for current expectations and plans to be carried out and for the reasonably foreseeable future period after that.

EXHIBIT 3-8 (Continued)

- Description of the primary obligation (decommissioning requirements).

- Unequivocal statement of guarantee.

  a. Recitation of the consideration for the guarantee.
  b. Liability of the guarantor.

     a. Limitation of liability
     b. Condition(s) of liability
     c. Effect on liability of a change in the status of the licensee

- Statement that guarantor remains bound despite amendment or modification of license or decommissioning funding plan, reduction or extension of time of performance of required activities, or any other modification or alteration of an obligation of licensee.

- Notice requirements.

- Discharge of the guarantor.

- Termination and revocation.

  1. Termination on occurrence of contingency
  2. Voluntary revocation by guarantor
  3. Effective date of termination or revocation

- Date.

- Signatures.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

JAN 0 9 1991

MEMORANDUM FOR: Louis M. Bykoski, NRC Project Officer
Low Level Waste Management, Low Level Regulatory Branch

FROM: John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

SUBJECT: NONSTANDARD FINANCIAL ASSURANCE SUBMITTALS RELATED TO THE DECOMMISSIONING RULE

John Austin's August 6, 1990 memorandum set forth a procedure for submitting nonstandard financial assurance submittals to you for review by the NRC contractor. We have also included parent company guarantee's and decommissioning funding plans.

Licensee	License No.	Control No.
Worcester Foundation for Experiment	20-01225-01	112990
Boehringer Ingelheim Pharmaceuticals, Inc.	06-19183-01	112947
Digital Equipment Corp.	20-20815-01	112929
GTE Products Corporation	STB-281	112851
Marine Biological Lab	20-00595-02	113185
Platina Refining Laboratories	29-18345-01	113583
EG&G, Incorporated	20-02804-01	113006
Merck and Company, Inc.	29-00117-06	113032
Interstate Nuclear Services Corporation	20-03529-01	113002
Merck, Sharp & Dohme Research Labs	37-01531-08	113033
General Electric Company	37-02006-09	113257
INS Corporation	37-23341-01	113003
Isomedix, Incorporated	29-19769-02	113157
Isomedix, Incorporated	29-19769-03	113158

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If any of you or the contractors believe any of these cases should more properly be reviewed by the Region, please return them. Some of these cases have obvious, minor deficiencies which we have not attempted to resolve so that we could provide the cases to you promptly.

John D. Kinneman, Chief
Nuclear Materials Safety Section B
Division of Radiation Safety
and Safeguards

cc:
J. Glenn, NMSS
R. Bellamy, RI
S. Villar, RI

030-14680

MERCK SHARP & DOHME RESEARCH LABORATORIES
DIVISION OF MERCK & CO., INC.
P. O. BOX 2000, RAHWAY, NEW JERSEY 07065-0900

CHARLES C. LEIGHTON, M. D.
SENIOR VICE PRESIDENT
ADMINISTRATION, PLANNING AND SCIENCE POLICY
(201) 594-3248

July 25, 1990

United States Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

RE: Byproduct Licenses No. 29-00117-06 and 37-01531-08

Dear Sir or Madam:

Merck Sharp & Dohme Research Laboratories wishes to amend Byproduct Licenses No. 29-00117-06 and 37-01531-08 to provide Decommissioning Financial Assurance, in the amount of $7.2 million. The enclosed Decommissioning Funding Plan describes the cost estimates, adjustments for inflation, and recordkeeping associated with the use of radioactive materials under Licenses No. 29-00117-06 and 37-01531-08. Merck Sharp & Dohme Research Laboratories is a division of Merck & Co., Inc., and therefore the enclosed Financial Assurance Documents are provided by Merck & Co., Inc. Also enclosed is a check for $400.00 for the Amendment Fee.

If you have any questions regarding this submittal, please contact Larry A. Spitznagle, Ph.D., Head of the Health Physics Department; located at Merck Sharp & Dohme Research Laboratories, Box 2000, Rahway, NJ 07065, he may be reached by telephone at (908) 594-7617.

Sincerely yours,

Charles C. Leighton, M.D.

Attachments:

1. Decommissioning Funding Plan
2. Financial Assurance Documents
3. Check for $400.00

RECEIVED
90 AUG 2 P4:01

Log Aug-8 - 1
Remitter
Check No. 266908
Amount $400
Fee Category 2.L
Type of Fee Amd
Date Check Rec'd. 8/2/90
Date Completed 8/6/90
Dpt. RAB

Refunded $400 per EN 90-38
12/6/90 AK

113032

JUL 27 1990

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APPENDIX A
CHECKLIST FOR DECOMMISSIONING FINANCIAL ASSURANCE

NAME OF LICENSEE OR APPLICANT

MAILING ADDRESS Merck Sharp & dohme Research Laboratories

126 E. Lincoln Avenue

Rahway, NJ 07065

A. Licensee Part (check one of the following):

__X__ Part 30 Licensee or Applicant _____ Part 70 Licensee or Applicant

_____ Part 40 Licensee or Applicant _____ Part 72 Licensee or Applicant

B. Check appropriate item in each category (if applicable)

1. July 26, 1990 Date of Financial Assurance Submission

2. _____ Public Entity

__X__ Private Entity

3. _____ Certification of Financial Assurance

__X__ Decommissioning Funding Plan

4. (a) _____ Prepayment Option (See Appendix B)
   - ____ Trust Fund
   - ____ Escrow Account
   - ____ Certificate of Deposit
   - ____ Government Fund
   - ____ Deposit of Government Securities

   (b) _____ Surety/Insurance/Other Guarantee (See Appendix C)
   - ____ Surety bond
   - ____ Letter of Credit
   - ____ Line of Credit
   - __X__ Parent Company Guarantee/Financial Test*

   (c) _____ External Sinking Fund, Sinking Account and Surety/Insurance (See Appendix D)
   - ____ Trust Fund
   - ____ Escrow Account
   - ____ Certificate of Deposit
   - ____ Government Fund
   - ____ Deposit of Government Securities
   - ____ Surety Bond
   - ____ Letter of Credit
   - ____ Line of Credit

   (d) _____ Statement of Intent (public entities only)

*May not be used in combination with any other instrument.

DECOMMISSIONING FUNDING PLAN FOR MERCK SHARP & DOHME RESEARCH LABORATORIES
JULY 1990

Merck Sharp & Dohme Research Laboratories (MSDRL), a Division of Merck & Co., Inc. operates research laboratories using radioactive materials under NRC License Number 29-00117- 06 at four sites: Rahway, NJ; West Point, PA; Branchburg, NJ; and Three Bridges, NJ, which require a decommissioning funding plan per 10 CFR Part 30. MSDRL possesses and operates two sealed source irradiators under NRC license number 37-01531- 08 at West Point, PA. This cost estimate applies to decommissioning costs associated with these licenses at these facilities.

Should it become necessary, a detailed Decommissioning Plan would be prepared with the aid of a firm experienced in decommissioning similar facilities. It is estimated that this will require approximately 3-4 months including 2-3 weeks of onsite inspections and record reviews and cost approximately $100,000.

For the purposes of this Decommissioning Funding Plan, Merck Sharp & Dohme Research Laboratories contracted with Diversified Scientific Services, Inc. (Kingston, TN), a firm which has previously performed facility decommissioning activities and cost estimates, hereafter referred to as DSS, was instrumental in obtaining the data used in this cost analysis. Each building was inspected floor by floor by DSS personnel and compared to building schematic drawings. The final report was prepared by DSS staff including civil engineers, decommissioning specialist, and health physicist. A complete description of the methods and cost estimate are contained in "Radiological Decommissioning Cost Assessment for Merck & Co., Inc., Merck Sharp & Dohme Research Laboratories" by Diversified Scientific Services, Inc., P.O. Box 863, Kingston, Tennessee 37763, and submitted to Merck Sharp & Dohme Research Laboratories on May 31, 1990, which is kept on file in the Health Physics Office of the Licensee, and is available for inspection. The costs include estimates of direct labor; labor overhead; consumable supplies; travel, subsistence, and lodging; equipment rental; and subcontracted items.

FACILITIES:

As of July 1990, the facilities at which radioactive materials are, or have been used under these licenses are described below:

The Rahway, NJ facility involves fifteen buildings with one to three floors each. Contamination would be primarily tritium and ^{14}C in amounts from trace quantities to moderate concentrations. Other radionuclides of concern used at this facility include: ^{45}Ca, ^{22}Na, ^{36}Cl, ^{241}Am, ^{99}Tc, ^{109}Cd, ^{54}Mn, ^{63}Ni, ^{40}K, ^{65}Zn. The fifteen buildings have an estimated 81,430 SF floor space for radioactive materials use.

The West Point, PA facility involves sixteen buildings with one to three floors each. Contamination would be primarily tritium and ^{14}C in amounts from trace quantities to moderate concentrations. Other radionuclides of concern used at this facility include: ^{45}Ca, ^{22}Na, ^{99}Tc, ^{137}Cs, ^{153}Gd, ^{36}Cl, ^{85}Sr, ^{141}Ce, ^{133}Ba, ^{60}Co. The sixteen buildings have an estimated 100,000 SF floor space for radioactive materials use.

The Branchburg, NJ facility involves one animal testing building, on a farm. The radionuclides used at this facility are tritium and ^{14}C. The building has an estimated 13,325 SF floor space for radioactive materials use.

The Three Bridges, NJ facility involves a research and administrative building on a farm. The isotopes used at this facility are tritium and ^{14}C. The building has an estimated 3,520 SF floor space for radioactive materials use.

In general, the laboratories consist of a large room with base and island cabinets along the sides and down the center, wall hung cabinets, one to four fume hoods and one or more adjoining rooms used for counting equipment or other experimental processes. Installed components are defined as fume hoods, laboratory base and island cabinets, refrigerators, freezers, centrifuges and custom lucite boxes. Each room is unique in nature and contains a variety of installed components. Most laboratories contain two to three refrigerators, a centrifuge, a radioisotope counting system and general laboratory supplies and chemicals.

WASTE VOLUME ESTIMATE

Radioactive waste volume estimates were based on DSS's technical assessment and professional experience relative to estimating waste volumes for other decommissioning projects of similar complexity and magnitude.

Radioactive waste resulting from the decommissioning effort was divided into two categories: structural materials and installed components. Structural materials are defined as materials such as floors, ceilings, walls, studs, exhaust ducts, roof material, etc., that are an integral part of the building structure. Installed components are defined as fume hoods, laboratory base and island cabinets, refrigerators, centrifuges, freezers, etc. The following assumptions were used for compilation of the waste volume estimates.

STRUCTURAL MATERIALS:

For all laboratories in which radioactive materials are used, except those in Building 80R, Rahway, NJ: Approximately 1% of floor covering will be removed to a depth of 1/4", and will require disposal as radioactive waste; 1% of wall surfaces will be removed to a depth of 1/4" and will require disposal as radioactive waste; 1% of the dropped ceiling material will require disposal as radioactive material; 25% of the fume hood ducts will be disposed of as radioactive waste; 10% of the fume hood air handling units will be disposed of as radioactive waste; 7% of the roof material will be removed, to a depth of 1/2", and will be disposed of as radioactive waste; all other structural material will be cleaned in place and surveyed for release.

In laboratories in Building 80R, Rahway, NJ: 100% of the ceiling material in the affected areas and 100% of the exhaust ducts will be classified as radioactive waste; 1% of the floor covering will be removed to a depth of 1/4", and will require disposal as radioactive waste; 1% of wall surfaces will be removed, to a depth of 1/4", and will require disposal as radioactive waste; 10% of the fume hood air handling units will be disposed of as radioactive waste; 7% of the roof material will be removed, to a depth of 1/2", and will be disposed of as radioactive waste; all other structural material will be cleaned in place and surveyed for release.

INSTALLED COMPONENTS:

In all radioactive materials designated laboratories: 2% of all refrigerators will require disposal as radioactive waste; 1% of wall hung cabinets, base cabinets and island cabinets will require disposal as radioactive waste; 25% of fume hoods will be disposed of as radioactive waste; 1% of all centrifuges will be disposed of as radioactive waste. Installed components designated as radioactive waste will be volume reduced by 50%. All remaining components will be cleaned and surveyed for release.

COST ESTIMATE

OVERHEAD COST FACTOR	RATE (%)
Labor	160.0%
General & Administrative	15.5%
Fees	20.0%

DECOMMISSIONING COST ESTIMATE

Site	Labor Hours	Labor Cost	Travel & Living	Equipment & Materials	Rental	Procured Services	Subtotal Facility Decommission
Rahway, NJ	19,494	$1,187,014	$299,925	$275,341	$24,040	$23,821	$1,810,141
West Point,	25,833	$1,558,938	$383,079	$349,273	$24,380	$28,044	$2,343,714
Branchburg,	3,116	$ 239,119	$ 48,352	$ 21,435	$16,858	$ 7,775	$ 333,539
Three Bridge	2,940	$ 227,741	$ 45,525	$ 19,921	$16,867	$ 7,775	$ 317,829
TOTAL	51,383	$3,212,812	$776,881	$665,970	$82,145	$67,415	$4,805,223

LLRW DISPOSAL COST ESTIMATE

Site	Volume (CF) Shipped to Richland Washington Structural	Cost 1990 $ Structural	Volume (CF) Shipped to Richland Washington Components	Cost 1990 $ Components	Subtotal LLRW Disposal 1990 Dollars	TOTAL DECOMMISSIONING COST 1990 DOLLARS
Rahway, NJ	10,327	$1,046,022	2118	$214,532	$1,260,554	$3,070,695
West Point,	9,369	$ 948,986	1263	$127,929	$1,076,915	$3,420,629
Branchburg,	64	$ 6,483	47	$ 4,761	$ 11,243	$ 344,782
Three Bridge	106	$ 10,737	64	$ 6,483	$ 17,219	$ 335,048
TOTAL	19,866	$2,012,227	3,492	$353,704	$2,365,931	$7,171,154

RECORDKEEPING

Records of spills and/or other occurrences where contamination remains, are kept in the Health Physics Department at the associated site, and are updated annually. As-built drawings and modifications of structures are kept by the Department of Engineering Services, Merck Sharp & Dohme Research Laboratories, and are updated at least annually. Records of the Cost Estimate are on file in the Office of the Health Physics Department, Merck Sharp & Dohme Research Laboratories. A copy of the financial assurance mechanism and supporting documentation are kept in the Office of the Health Physics Department, Merck Sharp & Dohme Research Laboratories, and are updated annually.

INFLATION

Adjustments to the amount of space subject to decommissioning requirements will be made annually. Adjustments for the type and levels of radioactive materials used in the facilities will be made when, in the opinion of the Head of the Health Physics Department, there has been a significant change in the probability, severity or difficulty in decontamination of facilities. Records of the Cost Estimate will be updated at approximately five (5) year intervals (during license renewals). The Financial Assurance Mechanism and supporting documentation will be reviewed annually and updated at approximately five year intervals (during license renewal).

APPENDIX C

CHECKLIST FOR SUBMISSION OF SURETY/INSURANCE/PARENT COMPANY GUARANTEE

A. Check Appropriate Form of Surety/Insurance/Guarantee

____ Surety Bond

____ Letter of Credit

____ Line of Credit

__X__ Parent Company Guarantee/Financial Test*

____ Insurance

B. Check Documents Submitted for Surety/Insurance/Guarantee

1. Surety Bond
____ Surety Bond
____ Standby Trust Agreement
____ Acknowledgement

2. Letter of Credit
____ Letter of Credit
____ Standby Trust Agreement
____ Acknowledgement

3. Line of Credit
____ Verification
____ Standby Trust Agreement
____ Acknowledgement

4. Parent Company Guarantee
__X__ Letter from Chief Executive Officer of Applicant or Licensee
__X__ Letter from Chief Financial Officer of Parent Company
__X__ Financial Test: Alternative [I or II]
__X__ Auditor's Special Report and Attached Schedule
__X__ Corporate Guarantee
____ Standby Trust Agreement
____ Acknowledgement

5. Insurance
____ Certificate of Insurance
____ Standby Trust Agreement
____ Acknowledgement

*May not be used in combination with any other instrument.

DECOMMISSIONING FUNDING PLAN

MERCK SHARP & DOHME RESEARCH LABORATORIES

FINANCIAL ASSURANCE DOCUMENTS - JULY 1990

Merck Sharp & Dohme Research Laboratories is a division of Merck & Co., Inc. Since Merck & Co., Inc. has a net worth of $3,203,400,000 and the decommissioning cost estimate is only $7,171,154, we have submitted a Parent Company Guarantee/Financial Test. Under these circumstances the Corporate Guarantee is provided by the letter from the Chief Financial Officer. Merck & Co., Inc. routinely provides such financial test and guarantees for financial assurances required by the U.S. Environmental Protection Agency, and feels that it is appropriate for this Decommissioning Funding Plan as well.

MERCK & CO., INC.
P.O. BOX 2000
RAHWAY, NEW JERSEY 07065-0900

P. ROY VAGELOS, M.D.
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

July 26, 1990

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 17406

Re: License Nos. 29-00117-06 and 37-01531-08

Dear Sir or Madam:

I am the Chief Executive Officer of Merck & Co., Inc., P. O. Box 2000, Rahway, New Jersey, a corporation. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in 10 CFR Part 30.

I hereby certify that Merck & Co., Inc. is currently a going concern and that it possesses positive tangible net worth in the amount of $3,203.4 million.

This corporation is required to file a Form 10K with the U.S. Securities and Exchange Commission for the latest fiscal year. This fiscal year of this corporation ends on December 31.

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Sincerely yours,

Roy Vagelos

MERCK & CO., INC.

P.O. BOX 2000

RAHWAY, NEW JERSEY 07065-0900

(201) 594-4000

July 26, 1990

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Re: License Nos. 29-00117-06 and 37-01531-08

Dear Sir or Madam:

I am the Chief Financial Officer of Merck & Co., Inc., a corporation. This letter is in support of this corporation's use of the financial test to demonstrate financial assurance, as specified in 10 CFR Part 30.

This corporation guarantees the availability of funds to decommission the following facilities operated by a division of this corporation. The current cost estimates or certified amounts for decommissioning, so guaranteed, are shown for each facility:

Name of Facility	Location of Facility	Current Cost Estimates
Merck Sharp & Dohme Research Laboratory	West Point, PA	$3,420,629
"	Rahway, NJ	3,070,695
"	Branchburg, NJ	344,782
"	Three Bridges, NJ	335,048
	Total	$7,171,154

This corporation is required to file a Form 10K with the U.S. Securities and Exchange Commission for the latest fiscal year.

This fiscal year of this corporation ends on December 31. The figures for the following items marked with a (1) are derived from this corporation's independently audited, year-end financial statements and footnotes for the latest completed fiscal year, ended 1989.

($ Millions)

4.7.4 Financial Test: Alternative II

1.	Decommissioning cost estimates for all facilities (License Nos. 29-00117-06 and 37-01531-08) (total of all cost estimates shown in paragraphs above)	$ 7.2
2.	Current bond rating of most recent issuance of this corporation and name of rating service S&P, Moody's	Long Term: AAA/Aaa Short Term: A-1+/P-1
3.	Date of issuance of bond	N/A(2)
4.	Date of maturity of bond	N/A(2)
(1)5.	Tangible net worth (total Shareholders' Equity, less Other Assets).	$3,203.4
(1)6.	Total assets in United States (required only if less than 90 percent of corporation's assets are located in the United States)	$3,150.6

		Yes	No
7.	Is Line 5 at least $10 million?	✓	
8.	Is Line 5 at least 6 times Line 1?	✓	
(1)9.	Are at least 90 percent of corporation's assets located in the United States? If not, complete Line 10.		✓
10.	Is Line 6 at least 6 times Line 1?	✓	

(1)Denotes figures derived from financial statements.

(2)Merck & Co., Inc., has not issued long-term debt since 1988 (fully redeemed in 1989). The Company issues commercial paper (short-term debt) at regular intervals. Both the long-term and the short-term ratings were confirmed by the rating agencies after meetings with Company representatives in December 1989.

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Sincerely yours,

Judy L. Lewent
Chief Financial Officer

ARTHUR ANDERSEN & CO.

1345 AVENUE OF THE AMERICAS
NEW YORK, N.Y. 10105

July 26, 1990

U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Re: License Nos. 29-00117-06 and 37-01531-08

Dear Sir or Madam:

We have audited, in accordance with generally accepted auditing standards, the financial statements of Merck & Co., Inc. (the "Company") for the year ended December 31, 1989 and have issued our report thereon dated January 23, 1990. We have not performed any auditing procedures since that date.

Merck & Co., Inc. has prepared documents to demonstrate its financial responsibility under the U.S. Nuclear Regulatory Commission's ("NRC") financial assurance regulations, 10 CFR Part 30. This letter is furnished to assist the licensee, Merck Sharp & Dohme Research Laboratories, a division of Merck & Co., Inc. in complying with these regulations.

The attached schedule reconciles the specified information furnished in the Chief Financial Officer's (CFO's) letter dated July 26, 1990, in response to the regulations, with the Company's financial statements. In connection therewith, we have:

1. determined that the amounts in the column "Per Financial Statements" agree with amounts contained in the Company's financial statements for the year ended December 31, 1989;

2. determined that the amount in the column "Per CEO's letter" agrees with the letter prepared in response to the NRC's request;

3. determined that the amounts in the column "Reconciling Items" agree with the analyses prepared by the Company setting forth the indicated items; and

4. tested the clerical accuracy of the totals and percentages presented in the accompanying schedule and/or the CFO's letter.

Because the procedures in 1-4 above do not constitute an audit made in accordance with generally accepted auditing standards, we do not express an opinion on the accompanying schedule. In connection with these procedures, no matters came to our attention that the information set forth in the accompanying schedule should be adjusted.

This report is furnished solely for the use of the Company and the NRC and should not be used for any other purpose.

Arthur Andersen & Co.

Arthur Andersen & Co.

Attachment

ATTACHMENT

MERCK & CO., INC.
YEAR ENDED DECEMBER 31, 1989
($ Millions)

Line Number in CFO's Letter		Per Financial Statements	Reconciling Items	Per CEO's Letter
	Total Stockholders' Equity	$3,520.6		
	Less: Intangibles and Other Assets	317.2		
5	Total Tangible Net Worth	$3,203.4		
	Accrued Decommissioning costs included in liabilities		$0	
	Total Tangible Net Worth Plus Decommissioning Costs			$3,203.4

5743i

I, ANN MARIE ARABIA, Assistant Secretary of Merck & Co., Inc., (the "Company") a corporation duly organized and existing under the laws of the State of New Jersey, do hereby certify that P. Roy Vagelos has been duly elected, has duly qualified, and this day is Chairman of the Board, President and Chief Executive Officer, and that the signing of the documents relating to the U.S. Nuclear Regulatory Commission License Nos. 29-00117-06 and 37-01531-08, is within his area of responsibility and in conformity with General Corporate Resolution #2, as adopted by the Board of Directors of said Corporation and presently in full force and effect, and delegations of authority thereunder; and further, that Judy C. Lewent has been duly elected, has duly qualified, and this day is Vice Presdent, Finance and Chief Financial Officer, and she has been duly authorized under the Company's Grants of Authority, and in that capacity is authorized to execute such instruments and documents on its behalf as may be necessary, and that the signing of the above-described documents is within her area of responsibility.

IN WITNESS WHEREOF, I have hereunto subscribed my signature and affixed the seal of the Corporation this 26th day of July, 1990.

Ann Marie Arabia

Assistant Secretary

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 12 1990

Merck & Co., Inc.
ATTN: Charles C.Leighton, M.D.
P.O. Box 2000
Rahway, NJ 07065-0900

REFUND OF APPLICATION FEE

1. BACKGROUND:

Check Received August 2, 1990

Application Dated July 25, 1990

Check Number 266908

Check Amount $400

2. REFUND:

Amount $400

This refund is now being processed and will be sent as soon as possible.

3. REASON FOR REFUND:

Fee for application dated July 25, 1990, for License No. 29-00117-06 is being refunded in accordance with Information Notice 90-38, Supplement #1.

NOTE: ENCLOSED IS A COPY OF THE MAY 23, 1990 FEDERAL REGISTER NOTICE CONTAINING THE COMMISSION'S REVISED FEE REGULATIONS WHICH WENT INTO EFFECT JULY 2, 1990. IF YOU HAVE ANY QUESTIONS CONCERNING THE FEES TO BE SUBMITTED WITH FUTURE APPLICATIONS, PLEASE CONTACT US AT 301-492-4650.

Maurice Messier 12/14/90
License Fee and Debt Collection Branch
Division of Accounting and Finance
Office of the Controller

Enclosure: May 23, 1990
Federal Register notice

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03610
STATUS CODE: 0
FEE CATEGORY: 3L
EXP. DATE: 19950731
FEE COMMENTS:

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: MERCK & CO., INC.
RECEIVED DATE: 900727
DOCKET NO: 3014680
CONTROL NO.: 113032
LICENSE NO.: 29-00117-06
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: 400.00
CHECK NO.: 2756318

3. COMMENTS

SIGNED
DATE 7-30-90

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED (V))

1. FEE CATEGORY AND AMOUNT: 3L $400 refunded

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT ✓
RENEWAL
LICENSE

3. OTHER

SIGNED
DATE 8/7/90