

SOCIETY OF WOMEN ENGINEERS

NEWS RELEASE

345 EAST 47TH STREET, NEW YORK, NY 10017
(212) 705-7855

FOR IMMEDIATE RELEASE

HOFFMAN ELECTED TO SWE FELLOW MEMBERSHIP

Dorothy M. Hoffman was elected to the Society of Women Engineers (SWE) Fellow grade of membership at the 1984 Annual SWE Convention in Washington, D.C. This honor is bestowed on those who have been a Senior Member of SWE for at least eight years or a Member of SWE for at least twenty years in recognition of their continuous service to the advancement of women in the engineering profession. Hoffman has been a member of SWE since 1956. She is a member of the Technical Staff at the RCA/David Sarnoff Research Laboratories.

Hoffman earned her B.S. in Chemical Engineering at Rensselaer Polytechnic Institute and her M.S. in Chemical Engineering at Bucknell University. She has held all offices in the Philadelphia SWE Section, was a 1980 SWE Convention Committee Member in the New Jersey Section, and currently serves on the SWE National Boards of Trustees.

Hoffman was the first woman elected President of the American Vacuum Society and is currently the President of the Engineering and Technical Societies Council of Delaware Valley and its first woman elected officer. She is an Honorary Member of the American Vacuum Society. She was the first woman elected member of Engineers Club of Philadelphia, the 1982 Central New Jersey "Engineer of the Year," and twice the recipient of the RCA Laboratories Achievement Award.

Hoffman has authored numerous technical papers, holds several patents, and has been actively lecturing at Colleges, High Schools, Counselors' meetings on career guidance programs and activities of the Society.

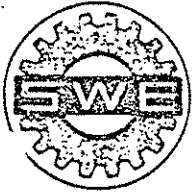
(over)

SWE is a non-profit educational service organization of graduate engineers and men and women with equivalent engineering experience. SWE has an international membership of over 14,000 woman and men. SWE Sections are located in 55 areas of the United States and Puerto Rico; SWE Student Sections are chartered at over 200 colleges, universities, and engineering institutes located throughout the United States, the District of Columbia and Puerto Rico.

SWE Corporate Membership is available to organizations which employ engineers and are interested in supporting the goals of the Society.

END

Society of Women Engineers
National Records
Walter P. Reuther Library
Wayne State University



Elected Fellow 1984

SOCIETY OF WOMEN ENGINEERS

NOMINATION FOR FELLOW GRADE

Name of Nominee: Dorothy M. Hoffman
 Home Address: RCA/David Sarnoff Research Laboratories
Princeton, N.J. 08540
 SWE Membership Number: M 560035
 Year Admitted to Senior Member/Member Grade: 1956

HLK	R	JDH	GLG			
JLR	SAFETY & INDUSTRIAL HYGIENE					FLW
QJM	NOV 03 1983					BVR
						FILE
CFP	RKJ	AFS	REG	WBA	RJD	

Nominating Section or MAL Group: New Jersey Section

Summary Nominating Statement (A brief statement telling the Fellow Selections Committee why it should endorse this nomination.):

Dorothy Hoffman is deserving of SWE recognition by election to Fellow Grade. Over a technical career spanning more than 30 years she has nationally distinguished women engineers by her accomplishments. Highlights are:

- o Three M.S. patents and more than 17 publications in the field of thin films and high vacuum technology.
- o More than 27 years devoted to SWE service furthering its objectives, not only as a member, but as SWE representative to this technical society.
- o First woman President of the American Vacuum Society, first woman elected Member of Engineers Club of Philadelphia and first woman elected officer of Engineering and Technical Societies.
- o Elected Honorary Member American Vacuum Society in recognition of her technical contributions to the state-of-the-art in vacuum technology and her substantial service to the society.
- o Recipient of many honors and awards attesting to peer group recognition of her achievements.

Susan Steisgall
 Signature* - Section President/MAL Representative

10/25/83
 Date

Signature* - Section Vice President

Date

Elizabeth A. Wilson
 Signature* - Section Representative

10/27/83
 Date

* Any two Section signatures or one MAL Representative's signature mandatory.

Attach separate sheets to provide information listed on page 2

Item 1: Service to the Advancement of Engineering as a Profession
For Women

Dorothy Hoffman, the New Jersey Section Nominee for Fellow Grade, Society of Women Engineers, has served to advance engineering as a profession for women in many ways. Illustrative of these are:

- o Her significant technical achievements which have advanced the state-of-the-art in high vacuum technology.
- o By demonstrated excellence she highlights the capability of women engineers with the leadership she has shown in technical societies such as the American Vacuum Society which culminated in her election as their first woman President, and, in 1982, as their first woman Honorary Member.
- o The leadership she has shown in SWE, both as a member of the Philadelphia Section for 27 years and as a member of National SWE Board of Trustees from 1890 to the present time.
- o Her outstanding dedication to SWE objectives, particularly in the field of career guidance.
- o Serving, by example, as an excellent role model for the younger women (and men) she always finds time in a busy schedule to counsel.
- o Her acceptance by her peer group by being the first woman elected to membership in the Engineers Club of Philadelphia, the first woman President of the Engineering and Technical Societies Council of Delaware Valley, etc.
- o Her great enthusiasm for engineering which she regards as full of fun, fascination and challenge.
- o Dorothy's recognized technical contributions are highlighted in Item 2 of this nomination. It is significant that she is the recipient of not one, but two RCA Laboratory Outstanding Achievement Awards for team contributions on the video disc and striped filters for vidicons. It is also of note that she was honored by the American Vacuum Society in 1982, not only for her technical contributions to the field of high vacuum technology, but also in appreciation of substantial contributions to the management and growth of that society. Her presence on the executive committees of other technical societies such as the Engineering and Technical Societies Council of Delaware Valley, where she originally started as the SWE representative, attests to her tireless and dedicated efforts on behalf of engineering.

Dorothy M. Hoffman
M 560035

Item 1: Service to the Advancement of Engineering as a Profession
For Women CONTINUED

For SWE, Dorothy has been a strong champion and member since 1956. She has served in every office in SWE's Philadelphia Section more than once. Her activities also extended to the N.J. Section where she served as a 1980 Convention Committee Member. Dorothy introduced RCA to SWE corporate membership and acts as corporate advisor on SWE matters. RCA's support of SWE has grown to include RCA sponsored SWE scholarships for women electrical engineering majors. Dorothy's SWE service continues as a member of the Board of Trustees where she is serving a second elected three year term.

Dorothy has indeed advanced engineering as a profession for women. There is no greater champion than a talented, qualified, enthusiastic spokeswoman who modestly regards her own abilities while encouraging others to follow and achieve the same high standards.

Society of Women Engineers
National Records
Walter P. Reuther Library
Wayne State University

Dorothy M. Hoffman
M 560035

Item 2: Recognized Technical Contributions

Over a technical career spanning more than 30 years, Ms. Hoffman consistently has made significant contributions to the design and fabrication of thin films and to vacuum technology. Individually and collectively, these contributions have had a major impact in numerous electrical, electronic, optical and electro-optical applications. Some examples of these include: thin film Nichrome resistors, which are now the standard of the industry; numerous optical filters used, for example, in TV cameras; and infrared imaging devices used in satellites for surveillance, land surveying, etc. to name but a few.

In addition, she has made many contributions to vacuum technology, which have greatly improved the reliability and repeatability of thin film processing techniques, leading to higher yield in the fabrication of numerous electronic and electro-optic devices.

Her three patents and more than 17 important publications in the field attest to her sustained contributions to high vacuum technology.

Society of Women Engineers
National Records
Walter P. Reuther Library
Wayne State University

Dorothy M. Hoffman
M 560035

Item 3: Present Employer

RCA/David Sarnoff Research Center
Princeton, NJ 08540

Title of Present Position

Member of Technical Staff

Society of Women Engineers
National Records
Walter P. Reuther Library
Wayne State University

Dorothy M. Hoffman
M 560035

ITEM 4: Work History

- 1962 - Present RCA/David Sarnoff Research Center
Princeton, NJ
Member of Technical Staff
- 1978 Responsible for evaporated coatings in new enlarged Thin Film Technology group. Coatings include those used in Semiconductors and Optical elements. Primary design of new Thin Film Laboratory. Continue in other functions listed below.
- 1967-78 In charge of Thin Film Technology group, supervise facility performing all types of evaporation processes thin films, vacuum processes, vacuum equipment, etc. Developed process for making striped filters for vidicons. Performed research on properties of thin films. As a team member, created a central corporate resource of computer know-how on the design of optical interference coatings.
- 1962-67 Worked on photoconductor and CdS solar cell thin film problems, di-electrics and metal films for optical applications. Developed coatings for early wave guides trying for doped crystalline materials.
- 1950 - 1962 International Resistance Company
Philadelphia, PA
Project Leader
- 1959-62 Process Development (Evaporated Films)
In charge of lab devoted to development of processes required for specific evaporated film applications. Applied films to substrates such as glass, ceramic, plastic, mica, etc. for various processes. Developed miniature metal film resistor.

Consultant to microcircuitry facility and for them developed a process for making evaporated capacitors.

Dorothy M. Hoffman
M 560035

ITEM 4: Work History (continued)

1950-59 As a Senior Research Engineer, designed and built high vacuum evaporators. Developed metal film resistor and invented equipment for its manufacturer. Research into the nature of thin films - electrical characteristics as influenced by preparation (See Publications).

Designed and/or set up much of the measuring techniques used in the research lab for the study of thin films; examples are 4-terminal potentiometric resistance measurements, and Tolansky multiple beam interferometer.

Performed and/or supervised the research work on evaporated resistive films which later became the basis for a micro-circuitry effort.

Exploratory research on single crystal semiconductors.

1948 - 1949 General Electric Laboratories
Schenectady, N.Y.
Associate Chemist

1947 - 1948 Bucknell University
Lewiston, PA
Chemical Engineering Instructor

Dorothy M. Hoffman
M 560035

ITEM 5: Education

- 1947 B.S. Degree in Chemical Engineering, Rensselaer
Polytechnic Institute
- 1948 M.S. Degree in Chemical Engineering, Bucknell
University

Society of Women Engineers
National Records
Walter P. Reuther Library
Wayne State University

Dorothy M. Hoffman
M 560035

ITEM 6: Patents, Honors, Presentations and Publications

PATENTS:

<u>U.S. Patent No.</u>	<u>Title</u>	<u>Issue Date</u>
2,847,325	Apparatus and Methods for Evaporating Films for Components	August 12, 1958
3,756,847	Method for Controlling the Composition of a Deposited Film	September 4, 1973
4,214,018	Method for Making Adherent Pinhole Free Al Films on Pyroelectric and/or Piezoelectric Substrate	July 22, 1980

HONORS

1982 Elected Honorary Member, American Vacuum Society in recognition of sustained contributions to the Society and high vacuum technology.

1982 Central Jersey Engineering Council, "Engineer of The Year".

1973 RCA Laboratories Achievement Award for evaporated coatings for optical video discs.

1968 RCA Laboratories Achievement Award for process development for manufacture of striped filters for vidicons.

First woman elected member of Engineers Club of Philadelphia.

First woman elected President of American Vacuum Society.

First woman elected officer of Engineering and Technical Societies Council of Delaware Valley.

Dorothy M Hoffman
M 560035

ITEM 6: Patents, Honors, Presentations and Publications Continued

PRESENTATIONS (invited)

"Partial Pressure Analysis of Cr Source Materials", AVS, 11th Annual Symposium, Florida Chapter (1979), N.E. Chapter (1978), and South Cal. Chapter (1978).

"Operation & Maintenance of Diffusion Pumped Vacuum Systems", AVS, 12th Annual Symposium, Florida Chapter (1979).

"Thin Film Technology", SWE, New Jersey Chapter (1979).

"Vacuum and Thin Film Technology", Princeton University Chapter - SWE (1979).

"Engineering Careers", Trenton State College Career Day (March 18, 1982).

"Liaison Between National & Local AVS", AVS - Tennessee Valley Chapter (May 25, 1982).

"Engineering as a Career", Pennington School (April 14, 1982).

"Partial Pressure Analysis of Chromium Source Materials", AVS - New England Chapter - Annual Symposium (June 22, 1978).

"Vacuum Technology Course", RCA, West Palm Beach; West Palm Beach, FL (March 4, 1980).

PUBLICATIONS

D. M. Hoffman and J. Riseman, "Theoretical and Experimental Investigations on Thin Film Resistance Elements", WADC Technical Report 57-215, Wright Air Development Center, July 1957.

D. M. Hoffman and J. Riseman, "Resistance-Temperature Characteristics of evaporated Chromium Film", in the Fourth National Symposium of Vacuum Technology Transactions, Pergamon Press, New York, 1958.

D. M. Hoffman and J. Riseman, "Evaporated Chromium Films on Hot Substrates", Sixth National Symposium on Vacuum Technology Transactions, Pergamon Press, New York, 1960.

ITEM 6: Patents, Honors, Presentations and Publications Continued

D. M. Hoffman and W. F. Leopold, "Preparation and Properties of Transparent Rhodium Films", American Vacuum Society National Symposium, New York City, Oct. 1965.

D. M. Hoffman, E. Levin, and A. Efstathiou, "Fractionation of Antimony Triselenide", Journal of Vac. Science and Technology, Vol. 6, #3, 1969.

D. M. Hoffman and D. Leibowitz, "Al₂O₃ Films Prepared by Electron-Beam Evaporation of Hot Pressed Al₂O₃ in Oxygen Ambient", Journal Vacuum Science and Technology, Vol. 8, #1 1971.

D. M. Hoffman and D. Leibowitz, "Effect of Substrate Potential on Al₂O₃ Films Prepared by Electron Beam Evaporation", Journal Vacuum Science and Technology, Vol. 9, #1, 1972.

D. M. Hoffman and H. O. Hook, "Design of Optical Monitor Systems", Proceedings of 16th Annual Conference of Society of Vacuum Coaters, March, 1973.

D. M. Hoffman, A. H. Firester, E. A. James, M. E. Heller, "Fabrication of Planar Optical Phase Elements", Optics Communications, Vol. 8, #2, June 1973.

D. M. Hoffman, "Advantage of Modularity in Vacuum Systems", Research and Development, Dec. 1974.

D. M. Hoffman, A. H. Firester, M. E. Heller, "Application of Multi-Layer Dielectric Coatings to Cylindrical Substrates", Rev. Sci. Inst. Vol. 46, #3, March 1975.

D. M. Hoffman, "Structure and Properties of Thin Metal Films", Proceedings of the 28th Annual Symposium on Frequency Control, 1974.

D. M. Hoffman, "Structure and Properties of Thin Metal Films", RCA Engineer, February/March, 1976.

D. M. Hoffman, M. D. Coutts, "Preparation and Properties of Adherent, Transparent, Conducting Rhodium Films", Journal Vacuum Science and Technology, Vol. 13, #1, 1976.

D. M. Hoffman and F. J. Tams III, "Inexpensive Radiant Heater for Vacuum Use", Journal Vacuum Science and Technology, Vol. 13, #2, 1976.

D. M. Hoffman, "Operation and Maintenance of Diffusion Pumped Vacuum Systems", Journal Vacuum Science and Technology, March, 1979.

Fraser, Vossen, Hoffman, Pinch, Brown, Baron, Dahlsfedt, "Pumping Hazardous Gases", - Monograph, AVS, June, 1980.

Dorothy M. Hoffman
M 560035

ITEM 7: Other Affiliations, Professional Organizations, Service

PROFESSIONAL SOCIETIES

Society of Women Engineers

Past President, Treasurer, Section Representative. Philadelphia Section during a very active membership spanning 1956 to Present.

1980 Board of Trustees, National. Presently serving second term.

American Vacuum Society (AVS)

1979-80 Chairman, Board of Trustees
1977-80 Board of Trustees
1974 President
1973 President-elect

Founding Member, Delaware Valley Chapter, AVS. Served on Chapter's Executive Committee in a variety of capacities from the early 1960's.

ETSCo, Engineering and Technical

Societies Council of Delaware Valley.
(Society of Women, Engineers Representative)

1983 President
1975 Director/Chairman of Special Programs Committee
1973-74 President
1972-73 First V.P.

Engineers Club of Philadelphia

Member

SERVICE - Particularly active in encouraging young women and men to enter Engineering as a profession. A small sampling of participation in career guidance events includes:

- Middlesex Community College guidance program
- East Brunswick H.S.
- Stuart Country Day School
- Widener College - Women in Eng. for H.S.girls
- West Windsor Elementary School
- Panel for Phila. Engineers Week - Science Teachers and Guidance Counselors Program.
- Science Engineering & Technology Programs for H.S. Students - ETSCo
- Special panel for Women interested in returning to industry sponsored by Middlesex C.C. (WITT)