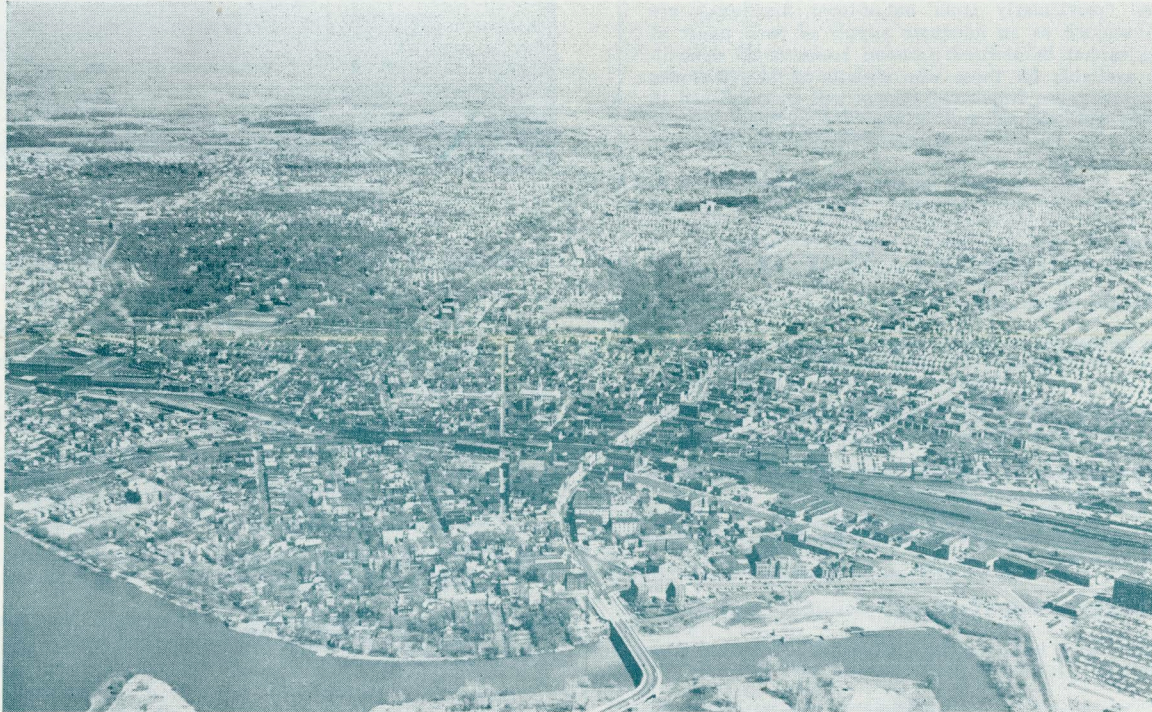


NORTH EASTERN DISTRICT MEETING

Schenectady, N. Y.
MAY 5 - 7, 1954



Headquarters
Van Curler Hotel



The City of Schenectady, New York

ENGINEERING AND RESEARCH — PILLARS OF PROGRESS

The AIEE North Eastern District Meeting will be held in Schenectady, New York, May 5-7, 1954. The Hotel Van Curler will serve as headquarters for the meeting and all technical sessions will be held there.

Included in the program will be papers covering various aspects of power generation, magnetic amplifiers, semi-conductors, power system continuity, industrial control applications and land transportation, as well as rotating machines, computing devices, industrial power systems, transformers, capacitors and feedback control systems. Of note will be four papers to be presented on the problem of transition in research and engineering. In addition, one day of the meeting, Friday, May 7th, will be devoted to special sessions featuring papers covering developments in the fields of nucleonics and textiles.

INSPECTION TRIPS

General Electric Company Turbine Manufacturing Building—(Thursday afternoon, May 6, 1:30-4 P. M.; Friday morning, May 7, 9:30-12 A. M.; Student Session Friday afternoon, May 7, 1:30-4 P. M.) The turbine building, covering 21 acres, is one of the largest machine shops in the world and provides work for 6800 employees. Visitors will be able to see the manufacturing, assembly, and testing operations involving approximately 1500 machine tools of various kinds required for the production of large steam turbines and generators for central station use. Currently being assembled is a 125,000 kw set to operate with 4500 psi steam at 1150 deg. F.

Niagara Mohawk Albany Steam Station—(Friday morning, May 7, 9:30-12 A.M.) This is the newest generating station on the Niagara-Mohawk System and when completed will consist of four identical units, each rated 80,000 kw, using 1450 psi steam at 1000 deg. F. The first two units are now in operation and the last two units will be completed late this summer. These units are operated on pulverized coal with a unit scheme of generation. This is an opportunity to see one of the most up-to-date plants in the country.

The American Locomotive Company—(Thursday morning,

May 6, 9:30-12 A.M.) The Schenectady Plant began operation in 1884 and was, for many years, the nation's leading builder of steam locomotives. In 1924 Alco built the first commercially successful diesel-electric locomotive. Since that time the company's diesel-electric locomotive production has increased and since 1948 it has been entirely this type. Visitors will be able to see the diesel engine manufacturing and assembly facilities as well as the locomotive assembly area. Alco presently serves many industries including transportation, petro-chemical, power, mechanical equipment and oil production with diversified products. They are now in the process of manufacturing the main shield for use in the construction of the third Lincoln tunnel.

Atomic Energy Commission Installations—(Thursday afternoon May 6, 1:30-4 P. M.) Although the details of this trip are not complete at present, it is planned that visitors will see Atomic Energy Commission installations at the Knolls and at West Milton. These plants are devoted to development work on atomic energy driven submarine and other problems. Proof of United States citizenship is required in order to visit these installations.

All inspection trips will leave the Hotel Van Curler by bus. Tickets may be purchased in advance or at the time of registration. These tickets will be \$.50 each with the exception of the trip to the Niagara-Mohawk Albany Steam Station which will be \$.75.

SOCIAL ACTIVITIES—Wednesday evening, May 5 at 6 P. M. there will be a smoker for all members. There will be a social hour starting at 6 o'clock, followed by dinner at 7 with a planned program beginning at 8:15. Dr. Murray Banks, brilliant young psychologist whose reputation as a humorist equals his reputation as a psychologist, will be the featured speaker. Tickets will be available in advance and at the registration desk. Price of the tickets will be \$5.50 and transportation will be available from the Hotel Van Curler to the Edison Club.

On Thursday evening, May 6 a buffet supper will be held at Union College. Bus transportation will be available from the Hotel

Continued on page 4

AIEE North Eastern District Meeting—Program—Schenectady, New York, May 5-6-7, 1954

ADVANCED COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 30c each (60c each to nonmembers), by sending enclosed order form and remittance to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y. Mail orders (particularly from out-of-town members) are advisable, inasmuch as an adequate supply of each paper at the meeting cannot be assured. Coupon books in \$9 denominations are available for those who wish to avoid remittance by check or otherwise. Numbered papers will be published in the bimonthly publications and in the Transactions. *District Papers* denoted by DP.** are intended for presentation only, and are not available.

Wednesday, May 5

9:00 a.m.—Power Generation

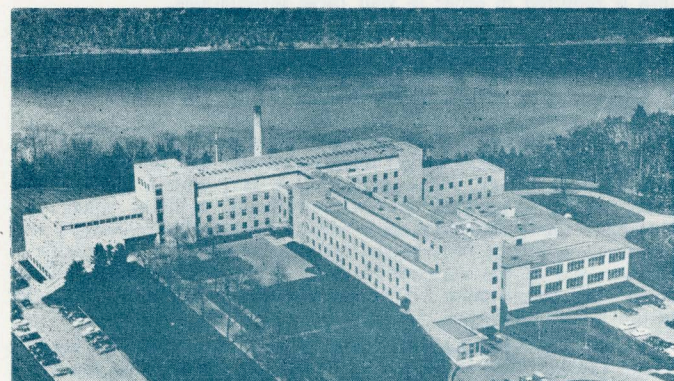
- DP.** Albany Steam Plant. J. M. Geiger, Niagara Mohawk Power Corp.
- DP.** An Automatic Hydro-Electric Development. W. C. VanDyke, Niagara Mohawk Power Corp.
- DP.** Motor Driven Exciter Sets for Power Stations. M. Temoshok and J. B. Tice, General Electric Co.
- DP.** Steam Turbine-Generators of the Future. R. S. Neblett, General Electric Co.

9:00 a.m.—Magnetic Amplifiers

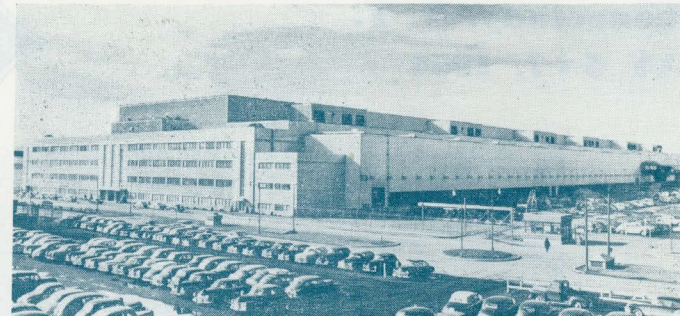
- DP.** Amplistats with Inductive D.C. Loads. H. F. Storm, General Electric Co.
- DP.** Magnetic Amplifier Applications. R. W. Moore, Westinghouse Electric Corp.
- 54-198. Pulse Relaxation Amplifier—A Low Level D.C. Magnetic Amplifier. R. E. Morgan and J. B. McFerran, General Electric Co.
- DP.** The Cyclic Integrator—A Device for Measuring the Frequency Response of Magnetic Amplifiers. T. Dunnegan, Chance Vought Aircraft, Inc., and J. D. Hardnen, Jr., General Electric Co.

9:00 a.m.—Semi-Conductors

- DP.** Germanium Diodes and Transistors. J. M. Early, Bell Telephone Laboratories.
- DP.** Electroluminescence. J. F. Waymouth, Sylvania Electric Products, Inc.
- DP.** Photo-Sensitive Materials and Devices. Richard G. Seed, Transistor Products, Inc.
- DP.** The Ferrites. V. C. Wilson, General Electric Co.



The General Electric Research Laboratory



General Electric's Turbine Building

2:00 p.m.—Power Systems and Service Continuity

- DP.** The Problem. G. D. Floyd, Hydro-Electric Power Commission of Ontario, and C. B. Kelley, Interchange Power Services, Inc.
- DP.** The Power System as a Whole. M. H. Mackenzie, Hydro-Electric Power Commission of Ontario.
- 54-186. Power and Energy Production. C. W. Watchorn, Pennsylvania Water & Power Co.
- DP.** The Power Distribution System. G. G. Auer, General Electric Co.
- DP.** System Transmission and Transformation. O. A. Starcke, Kansas City Power & Light Co.
- 54-188. Industry Coordination of Microwave Communication Systems. V. J. Nexon, Microwave Services, Inc. (Represented for Discussion.)

2:00 p.m.—Control and Industrial Applications

- DP.** Automatic Log-Handling Cranes. C. B. Risler, Westinghouse Electric Corp.
- DP.** Automation in Heavy Material-Handling Equipment. E. H. Abbe, General Electric Co.
- DP.** Controlled Tension by Eddy Current. R. H. Garrett and R. R. Dirksen, Dynamatic Corp.
- DP.** D.C. Systems for Tension Control. W. W. Litfin, General Electric Co.

2:00 p.m.—Land Transportation

- 54-189. A World-Wide Standard Traction Motor for Diesel-Electric Locomotives. M. J. Baldwin, General Electric Co.
- DP.** The New ALCO 2250 HP Road Switching Locomotive. N. J. Hochanadel and C. F. Schwenker, American Locomotive Co.
- DP.** Horsepower Tractive Effort and Adhesion of Diesel-Electric Locomotives. D. W. McLaughlin, General Electric Co. and M. C. Swanson, American Locomotive Co.
- DP.** Ignitron Multiple Unit Cars. W. L. Barclay, Jr., Westinghouse Electric Corp.
- DP.** A New Engine Temperature Control for Diesel-Electric Locomotives. E. F. Weiser, General Electric Co.
- 54-190. Static Excitation Control for Diesel-Electric Locomotives. S. W. McElhenny and R. M. Smith, General Electric Co. (Represented for Discussion.)

Thursday, May 6

9:00 a.m.—Rotating Machines

- DP.** Field Pre-heating for Large Turbine Generators. W. J. Gilson, General Electric Co.

- DP.** Vibration in Two-Pole Induction Motors Related to Slip Frequency. E. V. Summers, Westinghouse Electric Corp.
- 54-191. Harmonics Due to Slots in Electrical Machines. R. A. Hertz, Minneapolis Honeywell Regulator Co., and R. M. Saunders, University of California.
- 54-192. Direct Calculation of Maximum Amplitudes in Transient Responses. D. G. Lewis, General Electric Co.
- DP.** Analysis of Short-Circuit Oscillograms. S. L. Mikhail, Ibrahim University.

9:00 a.m.—Computers in Engineering Analysis

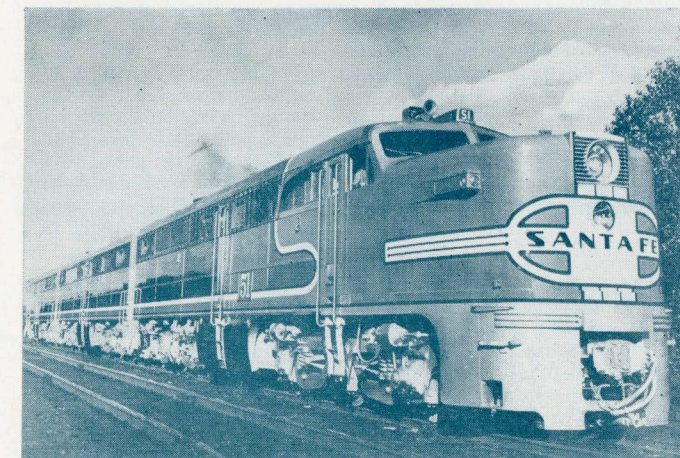
- DP.** Use of Computers in Application Engineering. R. Habermann, Jr. and D. F. Langenwaller, General Electric Co.
- DP.** Digital Computer Solution of Scheduled Air Traffic. Frank M. Verzuh, Massachusetts Institute of Technology.
- DP.** Problems Associated with Converting to a Univac System. R. F. Osborn, General Electric Co.
- DP.** Examples of Engineering Applications on IBM Digital Computers. I. C. Liggett, I.B.M. Corp.

9:00 a.m.—Industrial Power Systems

- DP.** Relay Response to Motor Residual Voltage During Automatic Transfers. A. R. Kelly, Standard Oil Development Co.
- DP.** An Expanded and Modernized Industrial Power System. G. E. Baker and C. E. Weaver, Eastman Kodak Co.
- DP.** 480/277 Volt Lighting System in Telephone Building at Menands. H. D. Donnelly, N. Y. Telephone Co., and D. S. Brereton, General Electric Co.
- DP.** Power Distribution System at the Norton Co., Worcester, Mass. P. L. Russell, General Electric Co.

2:00 p.m.—Transformers and Capacitors

- 54-193. A Method of Estimating Lightning Performance of Distribution Lines. J. M. Clayton and A. R. Hileman, Westinghouse Electric Corp.
- 54-194. Traveling Wave Protection Problems. E. W. Boehne, Massachusetts Institute of Technology.
- DP.** Thyrite Protection for Series Windings of Auto Transformers. J. W. Albright, General Electric Co.
- 54-195. Voltage Unbalance in Delta Secondaries Serving Single-Phase and Three-Phase Loads. A. S. Anderson, Ebasco Services, Inc. and R. C. Ruete, General Electric Co.
- DP.** Factors Determining the Economic Size of Capacitors. A. E. Peltasalo and R. J. Hopkins, General Electric Co.



Manufactured by The American Locomotive Co.

2:00 p.m.—Research and Engineering—The Problem of Transition

- DP.** The University Laboratory. Albert F. Size, Massachusetts Institute of Technology.
- DP.** The Independent Research Laboratory. Allan Latham, Jr., Arthur D. Little, Inc.
- DP.** The Government Laboratory. Donald F. Marlowe, U.S. Navy Ordnance Laboratory.
- DP.** The Industrial Laboratory. V. H. Fraenkel, General Electric Research Laboratory.

2:00 p.m.—Feedback Control Systems

- DP.** The Use of Analog Computers in the Study of Instrument Servos. R. L. Hovious, Goodyear Aircraft Corp.
- 54-196. Transient Analysis of Sampled-Data Control Systems. G. W. Johnson and D. P. Lindorff, University of Connecticut.
- 54-197. The Influence of Time Scale and Gain on Criteria for Servomechanism Performance. D. Graham and R. C. Lathrop, Wright Air Development Center.
- DP.** Transient Analysis of A. C. Servomechanism. S. S. L. Chang, New York University.

Friday, May 7

9:00 a.m.—Conference on Nucleonics

- DP.** Compact Radiation Source. T. T. Naydan, General Electric Co.
- DP.** Thermal Test Reactor. E. R. Gartner, General Electric Co.
- DP.** Synchrotron Experiments. D. R. Corson, Cornell University.
- DP.** High Energy Electrons in Medicine and Industry. J. G. Trump, Massachusetts Institute of Technology.
- DP.** Handling and Viewing of Radio-Active Materials. P. A. Halpine, Westinghouse Electric Corp.

9:00 a.m.—Conference on Textiles

- DP.** Finishing Ranges for Carpets. L. A. Runton, Alexander Smith, Inc.
- DP.** Electric Heating in Textile Finishing. John McCreary, McCreary Machine Works.

2:00 p.m.—Conference on Nucleonics

- DP.** General Observation in Nuclear Energy. Hans A. Bethe, Cornell University.
- DP.** Control of Nuclear Reactors. J. L. Owens and J. Pigott, General Electric Co.
- DP.** Low Speed Rotor Motors for Sealed Systems. W. E. McCown, Westinghouse Electric Corp.
- DP.** Important Factors in Coolants for Nuclear Reactors. E. A. Luebke, General Electric Co.
- DP.** Road Blocks Besetting Progress in Atomic Power. J. K. Pickard, Atomic Energy Commission.

2:00 p.m.—Conference on Textiles

- DP.** Report on NEMA and Textile Sub-Committee: Co-operation for Control Enclosures for Textiles. V. Sepavich, Crompton & Knowles Loom Works.
- DP.** Carpet and Felt Loom Drives and Drive Requirements. (Panel Discussion: Moderator—J. H. Johnson, Roxbury Carpet Co.; R. B. Wood, Albany Felt Co.; L. T. Jester, General Electric Co.; F. D. Snyder, Westinghouse Electric Corp.)

DP.** District Papers; no advance copies are available; not intended for publication in the TRANSACTIONS.

Van Curler at 6 o'clock with the dinner scheduled to start at 6:15. Dr. Carter Davidson, President of Union College, will act as Master of Ceremonies, and Mr. E. B. Robertson, President of AIEE will be the featured speaker. It is planned that the dinner will be completed by 8:30 so that those who wish may attend the Steinmetz Lecture. Tickets for this event will be available in advance or at the registration desk at a cost of \$3.00.

The Steinmetz Lecture will be held Thursday evening, May 6 at 8:30 P. M. in the Union Memorial Chapel. This 26th Annual Steinmetz Lecture will be given by Charles Allen Thomas, President of Monsanto Chemical Company. The talk will emphasize the theme of the meeting "Engineering and Research—Pillars of Progress". The title of Mr. Thomas' lecture has not been announced. This lecture is free and open to the public.

In consideration of the outstanding technical and scientific ability possessed by Dr. Steinmetz, and of his broad human interests and varied activities, the Steinmetz Memorial Foundation was established in 1925. By subscription among his many friends and admirers, a fund was collected and placed in permanent trust under the administration of the Schenectady Section of the American Institute of Electrical Engineers. The Foundation provides for public lectures by eminent scientists and engineers, in honor of Charles Proteus Steinmetz, whose personality and achievements will thus be recalled periodically by the delivery and publication of the Steinmetz lectures.

There will be a textile sub-committee luncheon at noon Friday, May 7 at the Van Curler Hotel. All those attending the Textile Sessions are invited. Tickets will be available at the registration desk.

LADIES' PROGRAM—The ladies' headquarters will be in the Social Room at the Hotel Van Curler. Coffee will be served each morning. Hostesses will be on hand at all times to extend a welcome, help you get acquainted and answer any questions.

Through the generosity of Mrs. William C. White, the general chairman of the Ladies' Program, the ladies will enjoy a tea in her home on Wednesday afternoon, May 5. A dinner and card party will be held in the evening at the Mohawk Golf Club.

The vicinity of Schenectady is noted for its many places of historic interest. On Thursday morning, May 6, a bus trip is planned which will take the ladies through Schenectady's old sections, then to Albany the capitol, the Schuyler Mansion, on to Saratoga, site of the famous race track and health resort and to Skidmore College. There will be a luncheon at the Gideon-Putnam Hotel, a famous hostelry. The General Electric Research Laboratory will be the scene of the ladies' tour on Friday morning, May 7. Luncheon will be held in their attractive dining room.

ADVANCE REGISTRATION—Please register in advance by returning the accompanying advance registration card properly filled out. In so doing you will save time in completing registration details upon arrival at the hotel. The registration fee payable at the meeting will be \$2.00 for members, and \$3.00 for nonmembers. No fee will be required of enrolled students and immediate families of members.

HOTEL RESERVATIONS—Rooms have been set aside at the Hotel Van Curler (meeting headquarters) for members and guests. Requests for reservations should be sent prior to April 20 to Mr. John Fors, Van Curler Hotel, Schenectady, New York mentioning the AIEE. Mr. Fors will coordinate all hotel reservations. In view of the large number of double rooms available, to insure reservations at the headquarters hotel and make maximum use of the available facilities, members and guests are urged to request double accommodations wherever possible. It may be necessary to transfer some reservations to other local hotels.

Accommodations are as follows:

Single room	\$4.50 and up.
Double room	\$6.00 and up.
Sample room	\$7.00 and up.
Suite	\$16.00

STUDENT ACTIVITIES

The program for student activities on May 7 will be as follows:
 9:30 A. M.—Student paper contests.
 12 o'clock—Luncheon at the Van Curler Hotel for student branch chairman and counselors.
 1:30 P. M.—Student trips to General Electric Company Turbine Manufacturing Building and General Electric Research Laboratory.

COMMITTEES OF 1954

NORTH EASTERN DISTRICT MEETING

General Advisory Committee

D. E. Garr	W. S. Hill	L. T. Rader
<i>General Chairman</i>	<i>Vice Chairman</i>	H. C. Anderson
G. J. Crowdes	E. S. Lee	C. C. Herskind
<i>Secretary</i>	P. L. Alger	L. F. Lewis
W. A. Hunter	<i>Counselors</i>	R. K. Fairley
<i>Treasurer</i>		D. S. Brearton

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R. Cutts, Jr.	G. W. Knapp	M. E. Scoville
<i>Chairman</i>	E. K. Rice	

Technical Program

L. A. Umansky	C. E. Kilbourne	H. L. Palmer
<i>Chairman</i>	H. P. Kuehni	H. D. Snively
H. W. Bibber	R. G. Lorraine	W. C. White
J. G. Hutton	F. J. Maginniss	E. K. Rice
L. F. Kennedy	C. E. Miller	

Hotel Arrangements

R. W. McFall	J. R. M. Alger
<i>Chairman</i>	

Registration

K. K. Bowman	T. R. Brown	A. J. Rokicki
<i>Chairman</i>	B. J. Dalton	D. B. Brandt

Publicity

A. K. Raney	E. B. Turner	R. D. Spalding
<i>Chairman</i>	C. W. Hiers	P. T. Caufield
	J. J. Remley	A. J. Rokicki

Printing

B. R. Shepard	M. W. Hellar	D. Eldrer
<i>Chairman</i>		

Trips and Transportation

W. R. Kettingring	H. M. Ogle	R. D. Webster
<i>Chairman</i>	G. Preuer	M. Berman
		R. C. Cranshaw

Smoker and Social

J. C. White	W. M. Gaines	L. E. Saline
<i>Chairman</i>	R. L. Bienvenu	

Banquet

E. W. Hutton	A. S. Rubenstein	C. Sinclair
<i>Chairman</i>		

Student Activities

O. G. Owens	D. R. Pannone	F. A. Ludewig
<i>Chairman</i>		

Textile Conference Committee

Swaffield Cowan	F. D. Snyder	V. F. P. Sepavich
<i>Chairman</i>	R. R. Prechter	

Ladies' Program

Mrs. W. C. White	Mrs. E. M. Hunter	Mrs. W. J. McLachlan
<i>Chairman</i>	Mrs. D. E. Garr	Mrs. G. K. Kallenbach
	Mrs. H. C. Anderson	Mrs. T. R. Rhea

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