American Institute of Electrical Engineers

SUMMER GENERAL MEETING

Program

Please retain for use during entire meeting

ATLANTIC CITY, N. J.

JUNE 15-19

1953

Meeting Headquarters

HOTEL CHALFONTE-HADDON HALL

GENERAL INFORMATION

For those who attend the Summer General Meeting this year in Atlantic City, there awaits a full week of stimulating technical sessions and social entertainment. With America's foremost seaside resort the site, and members of the Philadelphia Section as hosts, we can assure our guests a most enjoyable and well spent week. Headquarters for the meeting will be the Chalfonte-Haddon Hall Hotel on the Boardwalk.

At our Annual Meeting, Monday morning June 15, Major E. H. Armstrong will be presented with a diploma as an Honorary Member of the Institute. In responding, Major Armstrong will address the meeting on "The Spirit of Discovery—A Tribute to the Work of Marconi".

The Lamme Medal Presentation to I. F. Kinnard will also take place at the Annual Meeting. Our President, Donald A. Quarles will close the meeting with an address entitled "Progress and Problems".

On the social side there will be a dinner and show, a cabaret dance as well as special entertainment for the ladies.

INFORMATION on all features may be obtained at the information desk, located off the lobby floor toward the boardwalk of Haddon Hall. Efforts will be made to deliver telegrams and messages promptly. Members who expect to receive mail are asked to inquire frequently at the information desk.

TICKET SALES. Tickets for social functions will be on sale at the Entertainment ticket desk located in the lobby of Haddon Hall.

TRANSPORTATION, HOTELS & INSPECTION TRIPS information can be obtained at the desk provided for this service in the lobby of Haddon Hall.

TECHNICAL SESSIONS AND DISCUSSIONS are covered by the "Conduct of Technical Sessions" at the discretion of the presiding officers. Usually 10 minutes will be allowed for the presentation of each paper and 5 minutes for each discussion. To receive consideration for publication, discussions in duplicate must be left with the chairman or sent to Edward C. Day, Assistant Secretary for Technical Papers, Committee on Technical Operations, AIEE, 33 West 39th Street, New York 18, N. Y., before July 3, 1953. Discussions received later will be returned. The original typewritten double-spaced copy, together with original illustrations with photostats or blueprints should be submitted.

ADVANCE COPIES OF PAPERS may be purchased by members at the technical papers desk located in the lobby of Haddon Hall at the uniform price of $.30 each ($.60 each to non-members). Only Transaction papers are available. 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 $9.00 denominations are available for those who wish to avoid remittance by check or otherwise. Mail orders should be addressed to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y. Most of the papers will ultimately be published in the AIEE Bimonthlies and in the TRANSACTIONS. Conference papers denoted by CP are intended for presentation only and are not available.

SCHEDULE OF EVENTS

See Separate Folder for Entertainment, Inspection Trips and Ladies Program.

Sunday, June 14

2:30 p.m.	Registration
4:00 p.m.	Informal Tea

Monday, June 15

8:30 a.m.	Registration
10:00 a.m.	Annual Meeting
2:00 p.m.	Protective Devices Electronic Power Converters Substations Facsimile Storage Batteries Ladies Sight-Seeing Trip
9:00 p.m.	Bingo and Card Party

Tuesday, June 16

9:00 a.m.	Section Delegates Conference Electrical Techniques in Medicine and Biology Television Relays New Developments in Digital Computers Instruments and Measurements Utility Charges for Service to Resistance Welders
12:30 p.m.	Ladies Luncheon and Millinery Show
1:30 p.m.	Section Delegates Conference Management Binaural Broadcasting Electron Tubes Instruments and Measurements Insulated Conductors Trip to Station WFPG-TV
5:45 p.m.	Dinner and Show

Wednesday, June 17

9:00 a.m.	Land Transportation Switchgear Insulation of Rotating Machinery Magnetic Recording Electronic Systems Reliability Nucleonics and Power Generation Instruments and Measurements
10:30 a.m.	Ladies Marine Sight-Seeing Trip

1:30 p.m. Transistor Standardization Forum
Switchgear
Rotating Machinery
Special Communications Applications
Nucleonics and Power Generation
System Engineering
Carrier Current
Trip to Station WFPG-TV

9:00 p.m. Cabaret Dance

Thursday, June 18

9:00 a.m. Electrical Safety Standards and Practices
Magnetic Amplifiers
Wire Communications
Conference on Automatic Protective Features for Boilers and Boiler Auxiliaries
High Dielectric Constant Ceramics
Conference on Switchgear
Electronic Circuit Principles
Electronic Instruments
Trip to Bell Telephone Co. of Pa., Philadelphia, Pa.
Trip to Westinghouse Electric Corp., Lester, Pa.
Trip to G. E. Switchgear Development Lab.

11:00 a.m. Ladies Inspection Tour of Haddon Hall Kitchens

1:30 p.m. Magnetic Amplifiers
Wire Communications
Power Generation, Hydro-Electric Systems
Magnetics
Transformers
Instruments and Measurements
Moonlight Boat Trip

Friday, June 19

9:00 a.m. Communication Switching
Transformers
Transmission and Distribution
Basic Science
Power Generation, Prime Movers
Petroleum Industry
Transient Response of Feedback Control Systems
Trip to Bell Telephone Co. of Pa., Philadelphia, Pa.
Trip to Westinghouse Electric Corp., Lester, Pa.
Trip to G. E. Switchgear Development Lab.

1:30 p.m. Radio Communications
Transformers
Non-Linear Feedback Control Systems
Basic Science

Monday, June 15

10:00 a.m.—Annual Meeting
Vernon Room
PRESIDENT D. A. QUARLES, Presiding

1. Report of Board of Directors, H. H. Henline, Secretary.
2. Report of Treasurer. W. J. Barrett.
3. Report of Committe of Tellers on:
   (a) Votes for nominees for AIEE offices.
   (b) Proposed Constitutional amendments.
4. (a) Introduction of, and presentation of President's badge to Elgin B. Robertson.
   (b) Response by Mr. Robertson.
5. Introduction of District Branch Prize Winners.
6. Honorary Membership Presentation to Major E. H. Armstrong.
7. Address by Major Armstrong on "The Sprit of Discovery—A Tribute to the Work of Marconi.
8. Presentation of Lamme Medal to I. F. Kinnard, General Electric Co., West Lynn, Mass.
   (a) The Establishment of the Medal. Lester L. Bosch, Chairman, Lamme Medal Committee.
   (b) The Career of the Medalist. Everett S. Lee, Editor, General Electric Review, Schenectady, N. Y.
   (c) Presentation of the Medal and Certificate by President D. A. Quarles.
   (d) Response by Mr. Kinnard.
9. Any other business that may be presented.
10. "Progress and Problems", President D. A. Quarles.

2:00 p.m.—Protective Devices
Vernon Room
H. R. STEWART, Presiding

53-272. Change in Resistance of Aircraft Current Limiters and Its Effect on Current Division in Networks. Henry Oman, Boeing Airplane Co. Re-presented for discussion.

53-183. The Duty on Expulsion Type Lightning Arresters for Distribution Systems. Otto Ackermann, Westinghouse Electric Corp. Re-presented for discussion.

53-273. Use of 10 x 20 Current Waves for Lightning Arrester Tests. H. A. Cornelius, Public Service Co. of Northern Illinois. Re-presented for discussion.

53-274. Ground Fault Neutralizer Grounding of Unit-Connected Generators. H. R. Tomlinson, New England Power Service Co.

53-201. Application Guide on Methods of Neutral Grounding of Transmission Systems. Working Group of the AIEE Subcommittee on Fault Limiting Devices. Re-presented for discussion.

2:00 p.m.—Electronic Power Converters
Benjamin West Room
J. B. PITMAN, Presiding

53-288. Water Cooling Systems of Mercury-Arc Rectifiers. Working Group on Water Cooling Systems of Mercury Arc Rectifiers.

CP.** Low Temperature Operation of Ignitrons. H. E. Zuvers and J. L. Zehner, General Electric Co.

CP.** Mechanical Rectifier Circuits and Transformer Connections. E. J. Diebold, I-T-E Circuit Breaker Co.

53-242. Voltage Regulation of Twelve-Phase Double-Way Rectifiers. R. L. Witzke, J. V. Kresser and J. K. Dillard, Westinghouse Electric Corp.

53-271. Equivalent Machine Constants for Rectifiers. I. K. Dortort, I-T-E Circuit Breaker Co. Re-presented for discussion.

2:00 p.m.—Substations
Rutland Room
K. L. WHEELER, Presiding

53-104. Performance of Electrical Joints Utilizing New Silver Coating on Aluminum Conductors. T. J. Connor and W. R. Wilson, General Electric Co. Re-presented for discussion.

53-237. Substation One-Line Diagrams. Working Group on One-Line Diagrams of the Committee on Substations.

53-238. Reclosing Fuses, Automatic Oil Circuit Reclosers and Automatic Reclosing Circuit Breakers in the Distribution Substation. Working Group on Breakers vs Reclosing Fuses of the Committee on Substations.

53-239. Grounding Grids for High Voltage Stations. E. T. B. Gross, Illinois Institute of Technology; B. V. Chitnis, American Gas & Electric Service Corp. and L. J. Stratton, Armour Research Foundation.

53-240. Design Charts for Determining Optimum Ground Rod Dimensions. J. Zaborszky and J. W. Rittenhouse, University of Missouri.

53-241. Lightning Protection in Extra-High-Voltage Stations—Influence of Multiple Circuits. I. W. Gross, American Gas & Electric Corp.; L. B. LeVesconte, Sargent & Lundy; J. K. Dillard, Westinghouse Electric Corp.

2:00 p.m.—Facsimile
Tower Rooms
E. C. CHAMBERLIN, Presiding

53-297. A Level Compensator for Telephotograph Systems. T. A. Jones and W. A. Phelps, Bell Telephone Labs., Inc.

CP.** Transmitting X-Ray Photographs by Facsimile. K. R. McConnell, Times Facsimile Corp.

CP.** The Facsimile Transmission of News and News Photographs for Television. J. V. L. Hogan, Hogan Labs., Inc. and Dewey Frezzolini, International News Photos.

CP.** A Discussion of Synchronizing Systems. F. T. Turner, Western Union Telegraph Co.

2:00 p.m.—Storage Batteries
Garden Room
H. C. RIGGS, Presiding

CP.** Some Aspects of the Charge and Discharge Process of Lead Acid Storage Batteries. E. N. Craig and W. J. Hamer, National Bureau of Standards.

CP.** Storage Battery Maintenance—Philadelphia Electric Company. P. B. Wickersham, Philadelphia Electric Co.

CP.** Nickel Cadmium Batteries. Arthur Fleischer, Nickel Cadmium Corp.

CP.** Lead Acid Storage Battery Discharge Characteristics. E. A. Hoxie, The Electric Storage Battery Co.

Tuesday, June 16

9:00 a.m.—Section Delegates Conference
Rutland Room
A. C. MUIR, Presiding

Functions of National Committees and their Relation to Section Activities.

1. Membership Committee, C. Clos, Chairman.
2. Committee on Transfers, C. B. Carpenter, Chairman.
3. Board of Examiners, C. W. Franklin, Chairman.
4. Committee on Registration of Engineers, N. L. Freeman, Chairman.
5. Committee on Student Branches, F. W. Tatum, Chairman.

9:00 a.m.—Electrical Techniques in Medicine and Biology
Tower Rooms
S. R. WARREN, JR., Presiding

CP.** Miniature Electrostatic Sources of High Voltage for Radiation Instrumentation. S. R. Gilford and S. Saito, National Bureau of Standards.

CP.** An Electronic Flowmeter. H. P. Kalmus, National Bureau of Standards.

CP.** Measurements of Materials with High Dielectric Constant and Conductivity at Ultrahigh Frequencies. H. P. Schwan and Kam Li, University of Pennsylvania.

53-206. Heating of Fat-Muscle Layers by Electromagnetic and Ultrasonic Diathermy. H. P. Schwan, E. L. Carstensen and Kam Li, University of Pennsylvania. Re-presented for discussion.

9:00 a.m.—Television
Viking Theatre
E. W. ENGSTROM, Presiding

CP.** A UHF Transmitter Employing a Klystron Power Amplifier. W. H. Sayer, Jr., Allen B. DuMont Labs.

53-299. Technical Characteristics of FTL Type No. 20-B UHF Television Transmitter. E. M. Bradburd, Federal Telecommunication Labs.

CP.** Review of Television Abroad. E. A. Laport and C. W. Slaybaugh, RCA International.

CP.** Engineering Plans for Theatre Television. A. Forman, Tele-Tech.

CP.** The Chromatron, A Single or Multigun Tricolor Cathode-Ray Tube. R. Dressler, Chromatic Television.

9:00 a.m.—Relays
Vernon Room
A. J. McCONNELL, Presiding

53-195. An Analysis of Polyphase Directional Relay Torques. C. J. Baldwin, Jr., Westinghouse Electric Corp. and B. N. Gafford, University of Texas.

53-200. A Pilot Wire Relaying Scheme Utilizing the Product Differential Relay. R. I. Ward and D. W. Gilman, Commonwealth Edison Co.

53-210. Field Experience—Electronic Mho Distance Relay. H. C. Barnes, American Gas & Electric Service Corp. and R. H. Macpherson, General Electric Co.

53-211. Phase Comparison Carrier Relaying for Three-Terminal Lines. H. W. Lensner, Westinghouse Electric Corp.

9:00 a.m.—New Developments in Digital Computers
Benjamin West Room
F. J. MACINNISS, Presiding

53-286. Pulse Response Characteristics of Rectangular Hysteresis Loop Ferromagnetic Materials. Joseph Wylen, Burroughs Adding Machine Co.

CP.** A High Speed Special Purpose Computer Using a Magnetic Drum Memory. R. T. Gordon, General Electric Co.

CP.** Phase System of Magnetic Recording as Used for the EDVAC Drum Memory. Donald Eadie, University of Florida.

53-287. A Progressive Code Digital Quantizer. Floyd Raasch, Minneapolis-Honeywell Regulator Co.

9:00 a.m.—Instruments and Measurements
Mandarin Room
J. H. MILLER, Presiding

53-281. 40 to 4000 Microwatt Power Meter. R. W. Lange, Bell Telephone Labs., Inc.

53-197. The Use of Steel Sheet for the Construction of Shielded Rooms. A. M. Intrator, U. S. Naval Civil Engineering Research and Evaluation Lab.

CP.** Precise Measurement of Repeater Transmission. T. Slonczewski, Bell Telephone Labs., Inc.

CP.** The Quasi-Peak Voltmeter. C. W. Frick, General Electric Co.

CP.** A New Electrode Configuration for the Measurement of Dielectric Strength at Radio Frequencies. B. P. Kang, Anaconda Wire and Cable Co., C. V. Longo, Rutgers University.

9:00 a.m.—Utility Charges for Service to Resistance Welders

Garden Room
C. N. CLARK, Presiding

CP.** Fundamentals of Electric Rate Making. L. R. Lefferson, Ebasco Services, Inc.

CP.** Utility Metering of Resistance Welding Loads. M. A. Faucett, C. A. Keener, University of Illinois.

CP.** Why Special Utility Charges for Resistance Welders? R. E. Young, Public Service Co.

CP.** A High Output—Low Demand Resistance Welding Machine. R. S. Phair, The Budd Co., D. L. Knight, National Electric Welding Machines Co.

53-296. Design of Transformers for Resistance Welding Machines. D. L. Knight, National Electric Welding Machines Co. Re-presented for discussion.

1:30 p.m.—Section Delegates Conference

Rutland Room
C. S. PURNELL, Presiding

Discussion of General Problems of Section Operation and Management.

1:30 p.m.—Management

Benjamin West Room
C. J. BELLER, Presiding

CP.** An Outline of the Principles, Skills and Tools of Management. R. M. Besse, The Cleveland Electric Illuminating Co.

CP.** Engineering Economy as a Tool of Management. E. D. Ayres, Ohio State University.

1:30 p.m.—Binaural Broadcasting

Garden Room
J. V. L. HOGAN, Presiding

CP.** Binaural Transmission by FM Multiplex. M. G. Crosby, Crosby Labs.

CP.** Stereophonic Recording Equipment. R. J. Tinkham, Ampex Electric Corp.

CP.** Better Realism with Binaural Sound Reproduction. H. T. Sherman, Sherman Studios.

CP.** Engineering and Subjective Aspects of the Binaural Medium. E. Cook, Cook Labs.

1:30 p.m.—Electron Tubes

Tower Rooms
W. C. WHITE, Presiding

CP.** A New UHF Amplifier Tube. Byron Stokes, Sylvania Electric Products, Inc.

CP.** A Monoscope Tube for Computor and Other Appliances. John Hartmann, Allen B. Dumont Labs., Inc.

53-307. Heat Transfer from Electron Tubes at High Altitudes and High Ambient Temperatures. Mrs. B. O. Buckland, General Electric Co.

1:30 p.m.—Instruments and Measurements

Mandarin Room
ERNST WEBER, Presiding

53-291. Preliminary Development of a Magnettor Current Standard. E. P. Felch, Bell Telephone Labs., Inc. and J. L. Potter, Rutgers University.

53-292. A Commutatorless Direct-Current Tachometer. A. R. Eckels and W. R. Peck, University of North Carolina.

53-293. An Automatic Transfer Function Measuring and Recording System. R. J. Ehret, E. F. Hochschild, J. M. Embree and E. C. Grogan, Minneapolis-Honeywell Regulator Co.

CP.** A Small Aircraft Instrument Servomotor. L. T. Akeley and J. R. Macintyre, General Electric Co.

1:30 p.m.—Insulated Conductors

Vernon Room
C. T. HATCHER, Presiding

53-228. A Critical Soil Moisture Condition Affecting Buried Transmission Cables. W. A. Hadley and R. Eisenstadt, Columbia University.

53-230. A Simplified Mathematical Procedure for Determining the Transient Temperature Rise of Cable Systems. J. H. Neher, Philadelphia Electric Co.

53-214. Tests of Fittings on Insulated Aluminum Cable. Joel Tompkins and E. K. Lanctot, Aluminum Co. of America. Re-presented for discussion.

Wednesday, June 17

9:00 a.m.—Land Transportation

Rutland Room
L. W. BIRCH, Presiding

53-264. Controlling D-C Arcs. R. L. Hurtle, General Electric Co.

CP.** Service Performance of New Trolley Coach Equipment. B. F. Krings, Westinghouse Electric Corp.

CP.** Trolley Coach vs. Motor Coach—Here's 15 Years of Competitive Operating Costs. L. W. Birch, Ohio Brass Co.

9:00 a.m.—Switchgear

Vernon Room
J. D. WOOD, Presiding

CP.** An Analysis of an Analogue Solution Applied to the Heat Conduction Problem in a Cartridge Fuse. A. E. Guile, Queen Mary College—University of London; E. B. Carne, Remington Rand, Inc.

53-212. Testing Inhibited Oils in Circuit Breakers. W. M. Leeds, Westinghouse Electric Corp., and R. F. Seubert, Koppers Co., Inc.

53-231. Features of the Philadelphia Switchgear Development Laboratory. W. F. Skeats and R. L. Williams, General Electric Co.

9:00 a.m.—Insulation of Rotating Machinery

Garden Room
P. L. ALGER, Presiding

53-301. Motor Insulation Life as Measured by Accelerated Tests and Dielectric Fatigue. C. J. Herman, General Electric Co. Re-presented for discussion.

53-207. A Method of Evalutating Insulation Systems in Motors. C. B. Leape, J. McDonald and G. P. Gibson, Westinghouse Electric Corp. Re-presented for discussion.

CP.** The Evaluation of Class H. Motor Insulation Systems. J. F. Dexter and E. Earleywine, Dow-Corning Corp.

CP.** Aging Effects on Insulation Resistance at High Temperatures. J. L. Fuller and P. H. Kahelin, Reliance Electric & Engineering Co.

CP.** Effect of Voltage and Vibration on Insulation. A. T. McClinton, Naval Research Lab.

CP.** Statistical Analysis in Functional Evaluation of Insulation. John Cybulski, Naval Research Lab.

9:00 a.m.—Magnetic Recording

Benjamin West Room
MARVIN CAMRAS, Presiding

CP.** Present Status of Magnetic Recording. R. E. Zenner, Armour Research Foundation.

53-300. Synchronized Magnetic Tape Recording. R. H. Ranger, Rangertone, Inc.

CP.** Structure and Performance of Magnetic Transducer Heads. L. L. Anderson and O. Kornei, Brush Development Co.

CP.** Performance Characteristics of Ferrite Recording Heads. J. F. Jewett, Ferroxcube.

9:00 a.m.—Electronic Systems Reliability

Tower Rooms
VICTOR HARRIS, Presiding

53-208. Reliability in Industrial Electronic Equipment. E. D. Cook, General Electric Co.

CP.** The Human Being in Man-Machine Systems. F. R. Naka, Massachusetts Institute of Technology.

CP.** Equipment Reliability as Applied to Analogue Computers. Herbert Jacobs, Jr., Massachusetts Institute of Technology.

CP.** Achieving Higher Reliability and Accuracy from Electronic Components by Utilizing Components in Parallel. P. B. Montgomery, Goodyear Aircraft Corp.

9:00 a.m.—Nucleonics and Power Generation

Viking Theatre
P. N. ROSS, Presiding

CP.** Major Factors in the Approach to Atomic Power. B. R. Prentice and R. G. Lorraine, General Electric Co.

CP.** The Nature of Nuclear Power. J. W. Landis, Atomic Energy Commission.

CP.** Nuclear Reactors for Power Generation. R. L. Witzke, J. M. Stein and E. U. Powell, Westinghouse Electric Corp.

CP.** Considerations for Discontinuous Type Power Regulation of Nuclear Reactors. J. M. Harrer, Argonne National Lab.

CP.** A Photomultiplier Log Level Period Meter for Reactor Control. V. G. Shaw, J. C. Connor and R. G. Durnal, Westinghouse Electric Corp.

CP.** Maintenance Problems with Reactor Auxiliaries and Instruments. C. B. Wagner, General Electric Co.

9:00 a.m.—Instruments and Measurements

Mandarin Room
J. G. REID, JR., Presiding

53-294. Generator Stator Copper Temperature Indicator. A. L. Brownlee and H. E. Brown, Commonwealth Edison Co.

53-205. Integrating Instruments for Simplified Quality-Control Measurements. D. M. Longenecker, General Electric Co.

53-295. Correction of Frequency Errors in Wattmeters. J. R. Freeman, Massachusetts Institute of Technology.

CP.** Designing a Line of D-C Portable Instruments. R. M. Rowell, General Electric Co.

WED. (contd)

1:30 p.m.—Transistor Standardization Forum

Benjamin West Room
R. F. SHEA, Presiding

CP.** Introduction, General Scope of Standardization Work. R. M. Ryder, Bell Telephone Labs.

CP.** Proposed A.I.E.E.—I.R.E. Standards on Definitions, Letter Symbols. S. J. Angello, Westinghouse Electric Corp.

CP.** Open-Circuit Impedance Representation, Large Signal Representation, Particularly for Point-Contact Transistors. N. T. Jones, Massachusetts Institute of Technology.

7 CP.** Short-Circuit Admittance Representation. L. J. Giacoletto and H. Johnson, Radio Corporation of America.

CP.** "h" Parameter Representation. High Frequency Considerations. J. M. Early, Bell Telephone Labs.

CP.** Viewpoint of Test Equipment Manufacturer. R. B. Holt, Transistor Products, Inc.

CP.** Viewpoint of Transistor Manufacturer. J. R. Nelson, Raytheon Manufacturing Co.

CP.** The Overall Viewpoint. R. L. Pritchard, General Electric Co.

1:30 p.m.—Switchgear

Vernon Room
R. L. WEBB, Presiding

53-309. Bushing Current Transformers for Oil Circuit Breakers. R. B. Shores and C. E. Wollerton, General Electric Co.

53-232. Considerations in the Operation of Outdoor Oil Circuit Breakers Under Low Ambient Temperatures. E. B. Rietz, General Electric Co.

53-233. Hydraulic Operating Mechanisms for High Capacity Circuit Breakers. E. E. Briggs, R. D. Hambrick and D. M. Umphrey, Pacific Electric Mfg. Corp.

53-234. A New Compressed Air Circuit Breaker for Arc Furnace Switching Duty. J. E. Schrameck and J. K. Walker, Westinghouse Electric Corp.

1:30 p.m.—Rotating Machinery

Mandarin Room
L. W. BUCHANAN, Presiding

53-302. Calculation of No-Load Waveshape of Salient-Pole A-C Generators. D. Ginsberg and A. L. Jokl, Engineer Research & Development Labs., and L. M. Blum, Bureau of Standards.

53-303. Factory Testing of Large Turbine Generators. R. W. Stevens and M. D. Ross, Westinghouse Electric Corp.

53-304. D-C Dynamic Braking of Squirrel Cage Induction Motors. W. La Pierre, Columbia University and N. Metaxas, Athens & Pireus Electricity Co.

53-305. Commutation of Low Voltage DC Aircraft Generators. P. W. Franklin, Royal Electric, Inc. Re-presented for discussion.

53-306. Leakage-Voltage Characteristics of Insulation Related to D-C Dielectric Strength. J. S. Johnson and J. W. Clokey, Westinghouse Electric Corp. Re-presented for discussion.

1:30 p.m.—Special Communications Applications

Navajo Room
A. T. LATTAUZEO, Presiding

53-202. An Automatic Control System with Provision for Scanning and Memory. N. H. Young, Federal Telecommunication Labs., Inc.

CP.** A Carrier Type Magnetic Tape Recorder. L. L. Fisher, Ampex Electric Corp.

CP.** Graphic Analysis of Communications Networks. R. L. Mayer, Pacific Gas & Electric Co.

1:30 p.m.—Nucleonics and Power Generation
Tower Rooms
J. A. BROOKS, Presiding

CP.** Precision Controls for a Low Power Research Reactor. C. W. George and J. L. Matrone, General Electric Co.

CP.** A Simple Electrical Analog to a Nuclear Power Plant, M. A. Schultz, J. N. Grace, Westinghouse Electric Corp.

CP.** Direct Linear Motion in Sealed Systems. R. C. Robinson and W. E. McCown, Westinghouse Electric Corp.

CP.** Position Control in Sealed Systems. W. H. Esselman and W. H. Hamilton, Westinghouse Electric Corp.

CP.** Present Feasibility of a Nuclear Power Plant. T. G. Le Clair, Commonwealth Edison Co.

1:30 p.m.—System Engineering
Rutland Room
R. T. PURDY, Presiding

CP.** Austrian Power Supply. E. J. Schubert-Drinawehr, Salzburg, Austria.

53-255. Tensorial Analysis of Integrated Transmission Systems—IV The Interconnection of Transmission Systems. Gabriel Kron, General Electric Co.

53-256. Analysis of Losses in Loop-Interconnected Systems. A. F. Glimn, L. K. Kirchmayer, General Electric Co.; G. W. Stagg, American Gas and Electric Service Corp.

53-209. Loss Formulas Made Easy. A. F. Glimn, R. Habermann, Jr. and L. K. Kirchmayer, General Electric Co.; G. W. Stagg, American Gas and Electric Service Corp.

CP.** Economic Aspects of European Electric Power Development. P. A. Abetti, General Electric Co.

1:30 p.m.—Carrier Current
Garden Room
C. W. BOADWAY, Presiding

53-204. Series Resonant Circuits for Carrier Trapping of Resonant Taps. S. Lubin and N. M. Levinson, Sprague Electric Co.

53-282. Telecommunication Equipment for Power Systems. Developments and Application in Sweden. U. Hecht, ASEA; S. Rodhe, Telefonaktiebolaget L. M. Erricsson; H. J. B. Nevitt, Ericsson Telephone Sales Corp.

CP.** Operation of Single Sideband Power Line Carrier. P. Taylor, Central Light & Power Co., and B. M. Ray, Westinghouse Electric Corp.

CP.** New Carrier Current Telephone Equipment for Modern Electric Utility Communications. Paul Crooker, General Electric Co.

CP.** Experience and Reliability of Carrier Relaying Channels. Carrier Current Project Subcommittee #5.

Thursday, June 18

9:00 a.m.—Electrical Safety Standards and Practices
Rutland Room
C. E. GANTHER, Presiding

CP.** Edison Electric Institute, National Safety Council, American Society of Safety Engineers. W. F. Brown, Consolidated Edison Co. of New York, Inc.

CP.** National Electrical Manufacturers Association, American Institute of Electrical Engineers. H. H. Watson, General Electric Co.

CP.** American Standards Association, Canadian Standards Association, National Bureau of Standards. W. C. Wagner, Philadelphia Electric Co.

CP.** Underwriters' Laboratories, Inc., National Fire Protection Association, National Board of Fire Underwriters. Karl Geiges, Underwriters' Laboratories, Inc.

9:00 a.m.—Magnetic Amplifiers
Benjamin West Room
E. V. WEIR, Presiding

53-283. A Transient Analyzer for Magnetic Amplifiers. E. J. Smith, Polytechnic Institute of Brooklyn.

53-284. Theory of Magnetic Amplifiers with Square-Loop Core Materials. H. F. Storm, General Electric Co.

53-215. Problems to Consider in Applying Selenium Rectifiers. J. Gramels, Bell Telephone Labs., Inc.

53-285. An Application of Magnetic Amplifier Circuits to Perform Multiplication and other Analytical Operations. L. A. Finzi and R. A. Mathias, Carnegie Institute of Technology. Re-presented for discussion.

9:00 a.m.—Wire Communications
Garden Room
E. I. GREEN, Presiding

53-221. The L3 Coaxial System. C. H. Elmendorf, R. D. Ehrbar, R. H. Klie and A. J. Grossman, Bell Telephone Labs., Inc.

53-222. L3 Coaxial System—Amplifiers. L. H. Morris, G. H. Lovell and F. R. Dickinson, Bell Telephone Labs., Inc.

53-223. L3 Coaxial System—Equalization and Regulation. R. W. Ketchledge and T. R. Finch, Bell Telephone Labs., Inc.

53-224. L3 Coaxial System—Television Terminals. J. W. Rieke and R. S. Graham, Bell Telephone Labs., Inc.

CP.** Compandors for General Use on Wire and Radio. R. S. Caruthers, Lenkurt Electric Corp.

9:00 a.m.—Conference on Automatic Protective Features for Boilers and Boiler Auxiliaries
Vernon Room
J. E. BARKLE, JR., Presiding

CP.** Modern High Capacity Steam Generator Protection. J. A. Elzi and J. C. Beres, Commonwealth Services, Inc.

CP.** Electrical Safety Features Used for Boiler Protection in Several Large Generating Stations in the Southeast. A. H. Mergenthaler, Southern Services, Inc.

CP.** Boiler Protection and Interlocking on the American Gas and Electric System. H. C. Barnes, American Gas and Electric Service Corp.

CP.** Operating Protection Devices for a Reheat Pressurized Boiler. G. R. Hahn, Consolidated Edison Co. of New York, Inc.

CP.** Electrical Safety Features Used for Boiler Protection at Delaware Station. E. E. Brown, Philadelphia Electric Co.

9:00 a.m.—High Dielectric Constant Ceramics
Navajo Room
L. J. BERBERICH, Presiding

53-235. Dielectric Breakdown of Sulfur Hexafluoride in Non-Uniform Fields. C. N. Works and T. W. Dakin, Westinghouse Electric Corp. Re-presented for discussion.

53-236. The Effect of Minor Constituents in High Dielectric Constant Titanate Capacitors. W. W. Coffeen, Metal & Thermit Corp.

CP.** High K Ceramic Dielectrics Made From Zirconate and Titanate Materials. Shelton, Bunting and Kopell, National Bureau of Standards.

CP.** New Developments in Ceramic Dielectrics for Capacitors. A. K. Das Gupta, K. R. Clark and S. Hedelman, Solar Mfg. Corp.

9:00 a.m.—Conference on Switchgear

Television Room
R. L. WEBB, Presiding

CP.** Station Type Air Blast Circuit Breakers. K. T. Ashdown, J. A. Oppel and G. L. Couch, General Elecric Co.

CP.** An Insulated Overcurrent Trip Device for Low Voltage Circuit Breakers, M. E. Horn and H. J. Lingal, Westinghouse Elec. Corp.

CP.** A New 69 Kv Oil Circuit Breaker for High Interrupting Duty, K. G. Darrow and V. E. Phillips, General Electric Co.

CP.** A 10,000 MVA, 138 Kv Outdoor Oil Circuit Breaker, A. W. Hill and G. B. Cushing, Westinghouse Electric Corp.

CP.** Transient Voltage and Current Requirements for Main Field Circuit Breakers for Synchronous Machines. R. C. Cunningham and M. E. Horn, Westinghouse Electric Corp.

9:00 a.m.—Electronic Circuit Principles

Viking Theatre
H. L. FLOWERS, Presiding

CP.** Some Physical Considerations in the Analysis of Transistor Transient Response. J. J. Suran, W. F. Chow, General Elec. Co.

CP.** Temperature Stabilized DC Amplifier Employing Junction Transistors. Edward Keojian, General Electric Co.

CP.** Wide Deviation Frequency Modulated Oscillator. D. J. Gray, V. P. Gurske and W. E. Morrow, Massachusetts Institute of Technology.

CP.** Analysis of Power Distributed Amplifiers. P. H. Rogers, University of Michigan.

9:00 a.m.—Electronic Instruments

Mandarin Room
R. FELDT, Presiding

53-298. A Universal Meter for Measuring Voltages at High Impedances, Micro-Microamperes, and Insulation Resistance. W. R. Clark, R. E. Watson and G. C. Mergner, Leeds & Northrup Co.

53-308. Electron Tube Voltmeter Concepts in the Mid-Frequency Range. G. B. Hoadley, North Carolina State College.

53-244. A-C Null-Type Recorder with Balancing Amplifier Which Provides Damping and Suppresses the Quadrature Component. A. J. Williams, Jr., and J. F. Payne, Jr., Leeds & Northrup Co.

CP.** Design Criteria for Mutual Inductance Micrometers. H. Joseph, National Bureau of Standards.

CP.** Sheet and Plated Metal Measurements with a Phase Angle Type Probe. W. A. Yates and J. L. Queen, National Bureau of Standards.

1:30 p.m.—Magnetic Amplifiers

Benjamin West Room
W. J. DORNHOEFER, Presiding

CP.** Frequency and Temperature Insensitive Regulated Power Supplies. M. A. Pahlavan, INET, Inc., and A. B. Rosenstein, University of California.

CP.** Note on the Control Mechanism of Self-Saturating Magnetic Amplifiers. G. F. Pittman, Westinghouse Electric Corp.

CP.** Half-Wave Magamp Output Circuits for Two-Phase Servo Motor Control. G. M. Attura, Industrial Control Co.

1:30 p.m.—Wire Communications

Mandarin Room
L. R. MONTFORT, Presiding

53-203. Protection of Wire Communication Facilities Serving Power Stations and Substations. T. W. Alexander, Bell Telephone Co. of Pennsylvania.

THUR. (contd)

53-226. The Control of Noise and Crosstalk on N1 Carrier Systems. A. J. Aikens, Bell Telephone Labs., Inc., C. S. Thaeler, American Tel. & Tel. Co.

53-225. Coordination of M1, and N1 Telephone Carrier Systems. E. P. Smith, L. P. Cornell, Jr. and M. G. Jerome, Pacific Tel. & Tel. Co.

53-227. Transmission Design of Intertoll Telephone Trunks. H. R. Huntley, American Tel. & Tel. Co.

1:30 p.m.—Power Generation, Hydro-Electric Systems

Vernon Room
F. L. LAWTON, Presiding

53-220. Unique Outdoor Hydro-Electric Plant. H. E. Rhoades, Northern States Power Co.

CP.** Important Economic Factors in the Development or Rehabilitation of Small Capacity Hydroelectric Stations. H. H. Brown, Wisconsin Michigan Power Co. and A. R. Klann, Allis-Chalmers Mfg. Co.

CP.** Progress Report by the AIEE Joint Subcommittee on Application Probability Methods to Power System Problems, Power Generation and System Engineering.

1:30 p.m.—Magnetics

Garden Room
R. M. BOZORTH, Presiding

53-259. The Permeability of Silicon-Iron at Very Low Flux Densities. Eberhard Both, Fort Monmouth, N. J. Re-presented for discussion.

53-260. Stressed Ferrites Having Rectangular Hysteresis Loops. H. J. Williams, R. C. Sherwood, Matilda Goertz and F. J. Schnettler, Bell Telephone Labs., Inc. Re-presented for discussion.

53-261. Mathematical Description of Core Losses. J. W. Hale, Allegheny Ludlum Steel Corp.; F. R. Richardson, General Electric Co. Re-presented for discussion.

1:30 p.m.—Transformers

Rutland Room
J. A. ADAMS, Presiding

53-275. Analytical Approach to the Variable Turns-Ratio Auto-Transformers. E. Mishkin, Hebrew Institute of Technology, Israel.

CP.** Measurement of Ambient Air Temperature During Temperature Test on Transformers. M. F. Beavers, General Electric Co.

53-270. Analysis of the Delta Grounded Transformer. E. T. B. Gross, Illinois Institute of Technology; K. J. Rao, Vern E. Alden Co.

CP.** Modern Forced Air Cooling of Power Transformers. W. D. Albright, Westinghouse Electric Corp.

53-276. Special Three-Phase Core Arrangements. F. C. Roeding, Westinghouse Electric Corp.

1:30 p.m.—Instruments and Measurements

Navajo Room
J. H. MILLER, Presiding

53-289. Forcing Function Generator Employing Conductive Plastic. L. W. Norman, Minneapolis-Honeywell Regulator Co.

53-290. A Permeability Analyzer for Magnetic Amplifier Cores. Philip Siskind, Sperry Gyroscope Co.

CP.** Basic Theory and Experimental Verification of the Alternating-Current Galvanometer. T. J. Higgins, University of Wisconsin, and William Kneen, Pullman Corp.

CP.** An Emission Characteristic Plotter for Thermionic Cathodes. Lewis Marzetta, National Bureau of Standards.

Friday, June 19

9:00 a.m.—Communication Switching

Mandarin Room
J. MESZAR, Presiding

53-216. An Application of Boolean Algebra to the Design of Electronic Switching Circuits. S. H. Washburn, Bell Telephone Labs., Inc.

53-217. The Map Method for Synthesis of Combinational Logic Circuits. M. Karnaugh, Bell Telephone Labs., Inc.

CP.** Circuit Action Charts. A. C. Reynolds, IBM Corp.

53-218. Transistors and Their Circuits in the 4A Toll Crossbar Switching System. P. Mallery, Bell Telephone Labs., Inc.

53-219. Telephone System Applications of Recorded Machine Announcements. W. Bennett, Bell Telephone Labs., Inc. Re-presented for discussion.

9:00 a.m.—Transformers

Rutland Room
J. R. MEADOR, Presiding

CP.** Crepe Papers and Crepe Paper Cables for Transformers. G. Camilli, L. Mulligan and E. L. Crandall, General Electric Co.

53-277. A New Low-Liquid-Content Current Transformer. L. W. Marks, General Electric Co.

CP.** External and Internal Factors Affecting H. V. Bushing Withstand Values. S. Terpak and D. L. Johnston, General Electric Co.

53-278. An Impulse Generator Circuit for Chopped Wave Tests on Transformers. G. H. Johnson, Line Material Co.

9:00 a.m.—Transmission and Distribution

Vernon Room
J. T. LUSIGNAN, Presiding

53-229. Physical Concepts of Corona in Capacitors. J. R. Nye, General Electric Co.

53-257. Puncture Tests on Porcelain Distribution Insulators Using Steep-Front Voltage Surges. J. H. Park and H. H. Cones, National Bureau of Standards.

CP.** Field Report on a New Surge Test Oscillograph. W. G. Fockler, Allen B. Du Mont Labs.

53-258. Economic Merits of Secondary Capacitors. R. A. Zimmerman, Westinghouse Electric Corp.

9:00 a.m.—Basic Science

Tower Rooms
M. G. MALTI, Presiding

53-262. The Electric Strength of Air in Non Uniform Fields at Radio Frequencies. J. B. Whitehead, C. F. Miller, The Johns Hopkins University and D. L. Birx, The Franklin Institute Laboratory for Research and Development.

53-263. Electron Ion Recombination at Low Pressures. Sidney Borowitz, New York University. Re-presented for discussion.

CP.** Tracking Response Characteristics of the Human Operator. J. I. Elkind, Massachusetts Institute of Technology.

53-265. Applications of Integral Equations to the Solution of Nonlinear Electric Circuit Problems. L. A. Pipes, University of California.

53-266. Flow of Energy in Direct Current Machines. E. I. Hawthorne, University of Pennsylvania.

9:00 a.m.—Power Generation, Prime Movers

Benjamin West Room
B. G. A. SKROTZKI, Presiding

CP.** Methods of Starting Gas Turbine Generator Units. W. B. Boyum, R. W. Ferguson and J. G. Partlow, Westinghouse Electric Corp.

CP.** Can Human Engineering Help in Reaching Decisions in Instrumentation and Control? B. J. Covner, Dunlap and Associates, Inc.

CP.** Generating Plant Costs in 1952. A. E. Knowlton, Electrical World.

9:00 a.m.—Petroleum Industry

Garden Room
W. O. MASCARO, Presiding

CP.** Modern Electric Distribution System for an Oil Refinery. V. Nealy, Texas Co.

CP.** Design Factors of Refinery Electric Distribution. H. G. Buch, Socony Vacuum Co.

CP.** Turbo Generators and Heat Balance of Refinery Applications. J. C. Spahr, Westinghouse Electric Corp.

CP.** Selecting 2300-Volt Motor Control Equipment for the Petroleum Industry. L. T. Ellis, Ray Maynard, General Electric Co.

CP.** Motor Lubrication Practices in an Oil Refinery. F. H. Walker, W. J. O'Meara, Atlantic Refining Co.

9:00 a.m.—Transient Response Feedback Control Systems

Viking Theatre
F. E. CREVER, Presiding

53-247. A Relative Damping Criterion for Linear Systems. J. F. Koenig, National Bureau of Standards.

53-248. Approximation of Transient Response from Frequency Response Data. C. H. Dawson, University of Rochester.

53-249. The Synthesis of Optimum Transient Response: Criteria and Standard Forms. Dunstan Graham and R. C. Lathrop, Wright Air Development Center.

53-250. Bibliography on Feedback Control Part I. Subcommittees on Bibliography of the Committees on Industrial Control and Feedback Control Systems.

53-251. Bibliography on Feedback Control Part II. Subcommittees on Bibliography of the Committees on Industrial Control and Feedback Control Systems.

1:30 p.m.—Radio Communications

Garden Room
A. C. DICKIESON, Presiding

53-198. Frequency Generating Equipment for Million Watt Navy Transmitter. D. G. Robertson, Radio Corporation of America.

53-199. A Million Watt Naval Communication Transmitter. J. C. Walter, Radio Corporation of America.

53-196. Aircraft Protection from Thunderstorm Discharges to Antennas. J. M. Bryant, University of Minnesota; M. M. Newman and J. D. Robb, Lightning and Transients Research Institute.

53-213. The New Jersey Turnpike—A Unique Highway Communication System. P. F. Godley, Paul Godley Co.; J. R. Neubauer and D. R. Marsh, Radio Corporation of America. Re-presented for discussion.

1:30 p.m.—Transformers

Rutland Room
F. J. VOGEL, Presiding

53-246. Temperature Classes for Dry Type Transformers as Determined by Functional Tests. Paul Narbut, Westinghouse Electric Corp.

53-243. Life Expectancy of Oil-Immersed Insulation Structures. W. A. Sumner, G. M. Stein and A. M. Lockie, Westinghouse Electric Corp.

FRI. (contd)

53-279. Field Theory of Wave Propagation Along Coils. H. Poritsky, P. A. Abetti and R. P. Jerrard, General Electric Co.

53-245. Sealed Dry Type Transformers Proved Safe by Test. E. W. Tipton, Westinghouse Electric Corp.

53-280. Propagation Mechanism of Impulse Corona and Breakdown in Oil. T. W. Liao and J. G. Anderson, General Electric Co.

1:30 p.m.—Non-Linear Feedback Control Systems

Benjamin West Room

L. C. HARRIOTT, Presiding

53-252. Optimization of Nonlinear Control Systems by Means of Non-Linear Feedbacks. R. S. Neiswander and R. H. MacNeal, California Institute of Technology.

53-253. Open Loop Frequency Response Method for Nonlinear Servomechanisms. R. L. Cosgriff, Ohio State University.

53-254. Describing Function Method of Servomechanism Analysis Applied to Most Commonly Encountered Nonlinearities. H. D. Greif, Hughes Aircraft Co.

CP.** The Finger-Type Voltage Regulator. T. F. McHenry, Electric Regulator Corp.

1:30 p.m.—Basic Science

Tower Rooms

H. J. CARLIN, Presiding

53-267. The First-Order Behavior of Separable Oscillators. D. C. Depackh, Naval Research Lab.

CP.** Acceleration Plane Method for Analysis of a Circuit with Nonlinear Inductance and Nonlinear Capacitance. Y. H. Ku, Moore School of Electrical Engineering.

53-268. Basic Concepts in the Analysis of Stationary Electric Circuits. D. W. Spence, Syracuse University and C. R. Cahn, Niagara Mohawk Power Corp.

53-269. Block Diagram Solutions for Vacuum Tube Circuits. T. M. Stout, University of Washington. Re-presented for discussion.

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COMMITTEE MEETINGS

Monday, June 15

12:00 noon—Luncheon—Lamme Medal ..... Porch A*
12:00 noon—Press Luncheon ..... Navajo Room
1:30 p.m.—Planning and Coordination ..... Bakewell Room
Production and Application of Light ..... Rowsley Room
4:00 p.m.—Lightning Arrester Standard 28A Working Group ..... Marine Room*

Tuesday, June 16

9:00 a.m.—Section Delegates Conference ..... Rutland Room
Substations ..... Rowsley Room
Code of Principles of Professional Conduct ..... Room A
Direct Current Subcommittee ..... Porch A*
Induction Machinery Subcommittee ..... Porch B*
Transformers ..... Vaux Hall*
Electronic Power Converters ..... Room 1344
Lightning Arrester Standard 28A Working Group ..... Marine Room*

10:00 a.m.—NEMA Power Circuit Breaker Group ..... Room 134

12:00 Noon—Luncheon—Science and Electronics Division ..... Bakewell Room
Luncheon—Public Relations Committee ..... Room 1344

1:30 p.m.—Computing Devices ..... Vaux Hall*
Electrostatic Processes Subcommittee ..... Room A
Section Delegates Conference ..... Rutland Room
Protective Devices ..... Porch A*
Electrostatic Processes Subcommittee ..... Room A
Carrier Current ..... Rowsley Room
Rotating Machinery Administrative Subcommittee ..... Room 134
Distribution and Conversion Substations Subcommittee ..... Porch B*
Power Generation ..... Navajo Room
Fundamental Electric Arc Research Subcommittee ..... Marine Room*
3:00 p.m.—Recording and Controlling Instruments Subcommittee ..... Television Room

Wednesday, June 17

7:00 a.m.—Breakfast—Industry Division ..... Bakewell Room

9:00 a.m.—Power Division ..... Rowsley Room
Protective Devices Shunt Reactors Subcommittee ..... Room 71*
Lightning and Insulator Subcommittee ..... Vaux Hall*
Student Branches ..... Room 1344
Magnetics Subcommittee ..... Marine Room*
Transmission Substations Subcommittee ..... Porch B*
Magnetic Amplifier Definitions Subcommittee ..... Navajo Room
Publications ..... Porch A*

Resistance Welding Instrumentation Subcommittee ..... Room 134
Conference—Vice Presidents and District Secretarys ..... Solarium
Dielectric Measurements in the Field Subcommittee ..... Television Room
Management ..... Room A

9:30 a.m.—Electron Tubes Subcommittee ..... Blue Room*

12:00 Noon—Luncheon—Technical Operations ..... Bakewell Room
Luncheon—Instruments and Measurements Committee ..... Room 1344
Television and Aural Broadcasting Systems Committee ..... Porch B*
Nucleonics Committee ..... Rowsley Room

1:30 p.m.—Land Transportation ..... Solarium
Wire Communication Systems ..... Vaux Hall*
Electrical Techniques in Medicine and Biology ..... Room 134
Magnetic Amplifiers ..... Porch A*
Electric Welding ..... Marine Room*
Rotating Machinery Insulation Subcommittee ..... Room A
Dielectric Measurements in the Field Subcommittee ..... Television Room

4:00 p.m.—Electronics Committee ..... Blue Room*

Thursday, June 18

9:00 a.m.—Board of Directors ..... Tower Rooms
Standards Coordinating Committee No. 4 Working Group ..... Room 134
System Engineering ..... Vaux Hall*

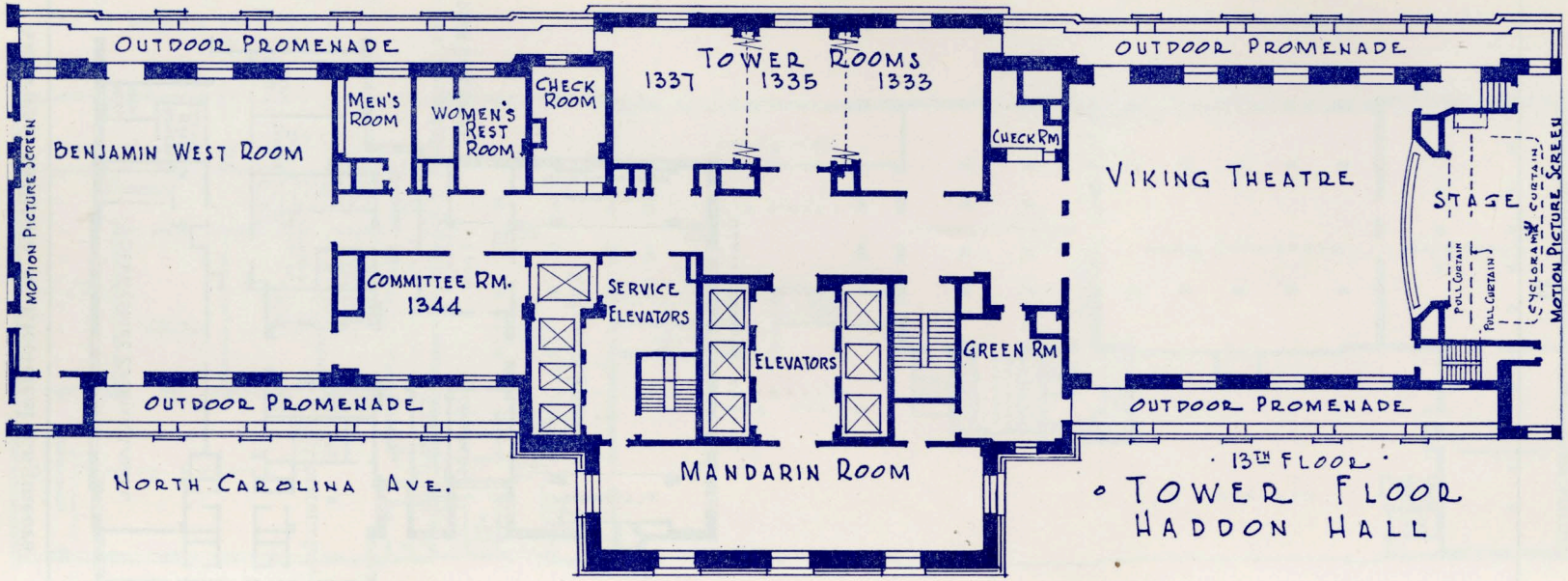
12:00 Noon—Luncheon—Board of Directors ..... Room 1344
Luncheon—Communication Division ..... Rowsley Room

1:30 p.m.—Board of Directors ..... Tower Rooms
Basic Science Dielectric Subcommittee ..... Room 134
Safety Committee ..... Porch A*
Transmission and Distribution ..... Vaux Hall*
Feedback Control Systems ..... Bakewell Room

Friday, June 19

1:30 p.m.—Basic Science ..... Bakewell Room
Communication Switching ..... Rowsley Room

* Located in the Hotel Chalfonte.


OUTDOOR PROMENADE
TOWER ROOMS
1337
1335
1333
OUTDOOR PROMENADE
MEN'S ROOM
WOMEN'S REST ROOM
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CHECK RM
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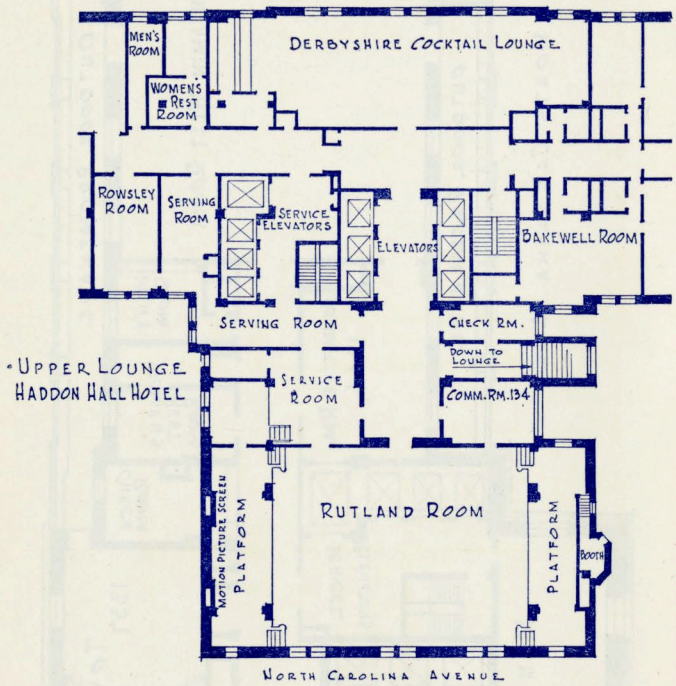

• UPPER LOUNGE
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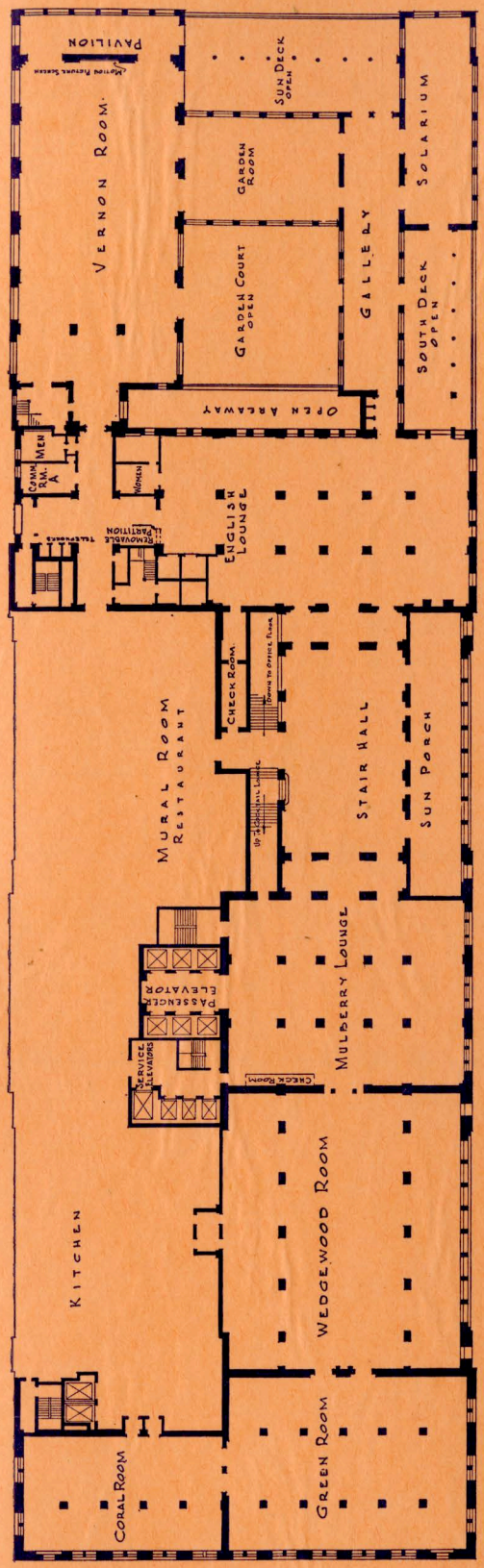
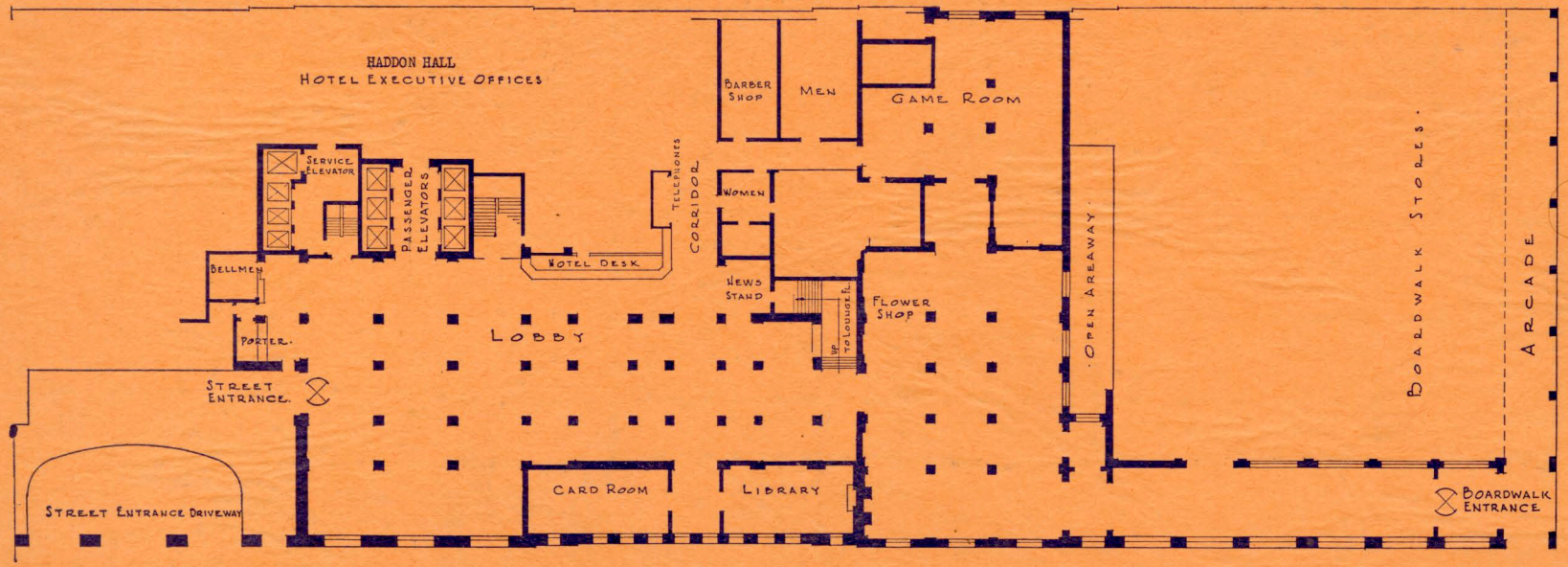


• LOUNGE FLOOR PLAN •
• HADDON HALL HOTEL •

NORTH CAROLINA AVENUE


HADDON HALL
HOTEL EXECUTIVE OFFICES
SERVICE ELEVATOR
PASSENGER ELEVATORS
BELLMEN
PORTER
STREET ENTRANCE
STREET ENTRANCE DRIVEWAY
HOTEL DESK
TELEPHONES
CORRIDOR
LOBBY
CARD ROOM
LIBRARY
BARBER SHOP
MEN
WOMEN
NEWS STAND
UP TO LOUNGE FL.
GAME ROOM
FLOWER SHOP
OPEN AREAWAY
BOARDWALK STORES
ARCADE
BOARDWALK ENTRANCE