

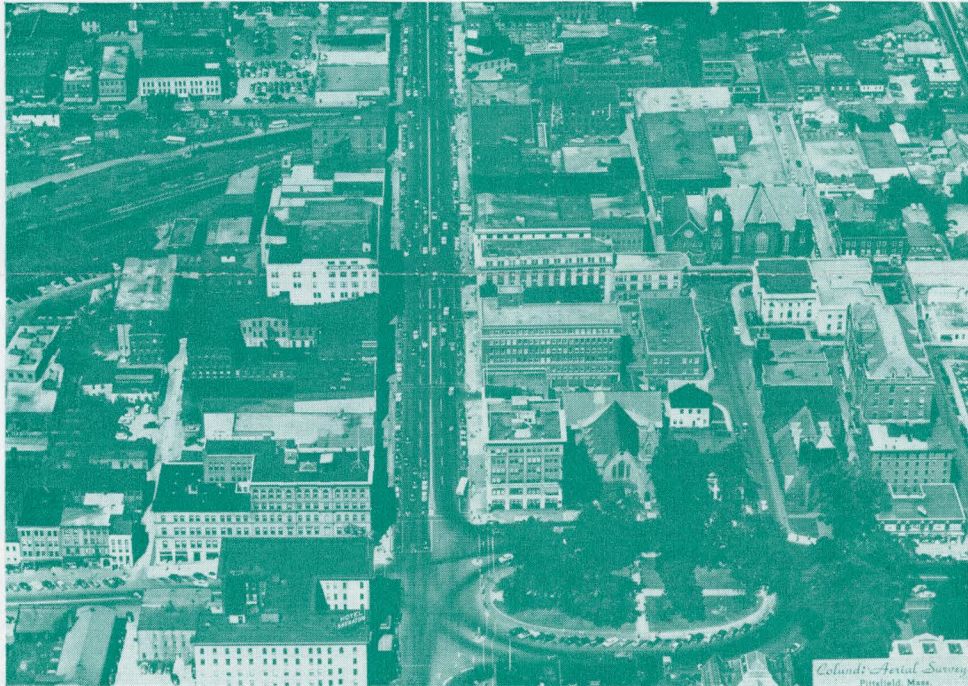
NORTH EASTERN DISTRICT MEETING

May 1-3, 1957



Pittsfield, Mass.

Headquarters
Wendell-Sherwood Hotel



Pittsfield, Massachusetts

Engineering Equals Industrial Revolution (E=IR) is the theme of the Northeastern District Meeting being held May 1-3 in Pittsfield, Massachusetts. The theme will be emphasized by sessions devoted to computers and data processing plus industrial electronics and controls.

Headquarters for the meeting will be the Wendell-Sherwood Hotel in downtown Pittsfield. Three full days of sessions beginning on Wednesday morning with transformers, instrumentation, and industrial control and electronics carry through to Friday afternoon with timely technical papers devoted to nuclear power generation, design and operation of digital computers, and dielectrics. The well-rounded program contains papers of interest to those in every field of electrical engineering such as utility systems and apparatus, electronics and industrial applications.

Featured on the program at the Wednesday Luncheon will be Mr. Howard J. Cadwell, President of the local Western Massachusetts Electric Company who will talk about the Yankee Atomic Electric Company. The latter company is constructing New England's first atomic power plant at nearby Rowe, Massachusetts.

The meeting includes inspection trips, social activities, student competitions and a full calendar of events for ladies.

RESERVATIONS

Accommodations have been reserved for AIEE members at the Hotel Wendell-Sherwood. Single rooms are available starting at \$5.50 to \$7.85. Double rooms begin at \$9.25 and two-room suites can be obtained from \$20.00. Reservations should be made directly with the hotel with reference to attending the AIEE Meeting.

ENTERTAINMENT

A "get-acquainted" reception beginning at 5:30 on Wednesday evening will permit members to meet others attending. At 8:30, the Tri-Sectional Competition between members of the Pittsfield, Lynn, Massachusetts and Schenectady, New York Chapters will take place. Representatives will vie for honors in the categories of writing and presenting papers they have prepared.

On Thursday evening, beginning at 6:00 P.M. a cocktail party, smorgasbord and dance will highlight the evenings activities.

STUDENT ACTIVITIES

Student members will present papers on Friday morning following a special breakfast meeting for student counselors. Representatives of up to 21 schools of electrical engineering will compete for cash prizes plus an expense-paid trip to the AIEE Summer Meeting for the first prize winner. Counselors and students will join at a luncheon followed by an inspection trip to General Electric's nearby transformer plant in the afternoon.

INSPECTION TRIPS

Inspection trips include visits to Crane and Company in nearby Dalton, Mass. on Thursday morning, the Berkshire Woolen Company on Thursday afternoon and the General Electric Company on Friday morning and afternoon.

The complete paper-making process of turning rags into paper will be observed in the Crane Mills. Crane is one of the very few companies producing all-rag content paper. While the production of U.S. Currency which is made exclu-

Continued on page 4

AIEE NORTH EASTERN DISTRICT MEETING - PROGRAM - Pittsfield, Mass., May 1-3, 1957

ADVANCE COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 40c each (80c 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 \$10 denominations are available for those who wish to avoid remittance by check or otherwise. The Transactions Papers will also be published in the bimonthly publications.

Note: Unnumbered District Papers (DP.*) may be available at or after the meeting, if copies are provided by the author. They are not intended for publication in the Transactions and are not presently scheduled for reproduction in any form by the Institute.

Note: The TRANSACTIONS papers will be printed in the bimonthly publications as follows:

- I COMMUNICATIONS AND ELECTRONICS.
- II APPLICATIONS AND INDUSTRY.
- III POWER APPARATUS AND SYSTEMS.

Wednesday, May 1

9:30 A.M.—Transformers

- DP.* The Application of Transformers with the Insulation Level Reduced Two Classes. J. M. Clayton, Westinghouse Electric Corporation.
- DP.* The Effect of Oil Preservation Methods on the Dielectric Strength of Oil. R. B. Kaufman, J. L. Peirce, E. R. Uhlig, and R. J. Ringlee, General Electric Company.
- DP.* A Way to Get Low Sound Levels in Large Power Transformers — Preambled Enclosures. M. W. Schulz and W. J. McNutt, General Electric Company.

DP57-530. Orthomagnetic Current Transformer for Laboratory and Factory Testing. L. W. Marks and G. Camilli, General Electric Company.

9:30 A.M.—Instrumentation

DP.* A New Impulse Generator for Cable Testing. P. H. Ware and M. J. Koulopoulos, Simplex Wire and Cable Company.

56-899. Precise Determination of the Watthour. L. E. Janetos and J. J. Hall, General Electric Company.



I.B.M.-705 Electronic Data Processing Machine at G. E.

DP57-556. Instrumentation for Nuclear Power Plants. R. C. Faught, Jr., General Electric Company.

57-407. Solid-State Neutron-Flux Measuring System. T. S. I. Gray, W. M. Grim, Jr., F. S. Replogle and R. H. Spencer, Massachusetts Institute of Technology.

DP57-566. Speed Measurement Recorders for Precision Mill Drives. D. R. Hyer, General Electric Company.

9:30 A.M.—Industrial Electronics and Controls

DP.* The Economic and Technical Aspects of Industrial Electronics. Dr. E. D. Cook, General Electric Co.

DP.* A Self-Balancing Core-Loss Bridge. A. H. Foley, General Electric Company.

DP57-563. Feedback Control Principles for Industrial Drives. C. G. Helmick, Westinghouse Electric Corporation.

DP57-578. Servo Control System for a Large Optical Tracking Instrument. Morton Mehr, Perkin-Elmer Corporation (Illustrated by moving pictures.)

12:00 Noon—Welcoming Luncheon

Guest Speaker—Mr. Howard J. Cadwell, President Western Massachusetts Electric Co.

2:00 P.M.—Transmission and Distribution

DP57-531. 12.47 KV Distribution in Southern New England. Paul S. Shelton, Narragansett Electric Company.

DP57-532. The French 380 KV System Measurement of Corona Losses on Transmission Lines under Normal Operating Conditions. Francois M. Cahen and Jean M. Carteron, Electricite de France, Paris, France.

DP57-533. Some Aspects of Surface Voltage Gradient on Power Transmission Lines. H. B. Dwight, Massachusetts Institute of Technology.

DP57-548. An Approximate Transient Solution of the Tapered Transmission Line. L. O. Barthold, General Electric Company.

2:00 P.M.—Instrumentation

DP57-582. Electrical Interfacial Tensiometer. E. H. Povey, Doble Engineering Company.

DP57-534. A Fast Null-Balance Electronic Recorder. W. McAdam, C. E. Miller and J. H. Moore, Leeds and Northrup Co.

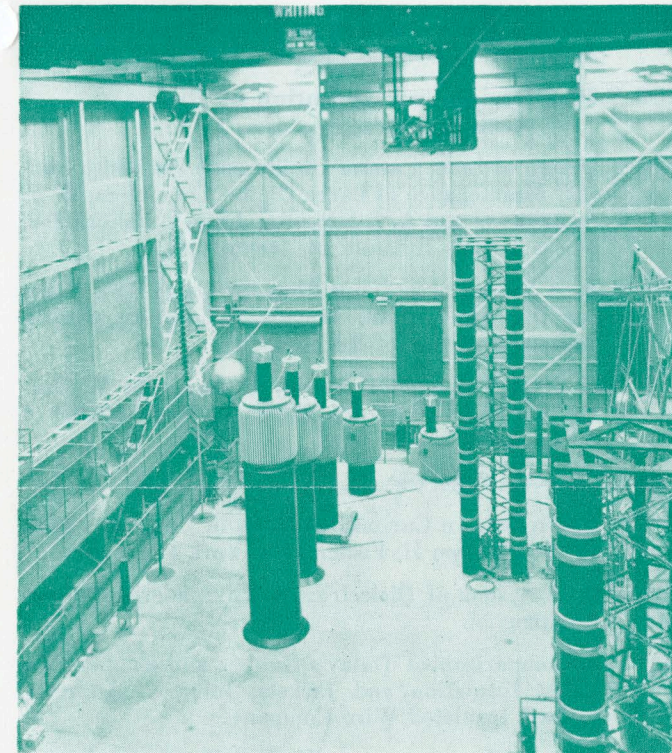
DP.* Hushed Transistor Amplifier. W. K. Volkers, Millivac Instrument Corporation.

DP.* A New Approach to Audio Frequency Impedance Measurement. H. W. Lamson and I. G. Easton, General Radio Company.

2:00 P.M.—Lightning Protective Devices

DP.* Location of Modern Arrester for Transformer Protection. J. K. Delson and A. J. Schultz, General Electric Company.

DP.* Lightning Protective Requirements in Extra High Voltage Stations. A. R. Hileman, Westinghouse Electric Corp.



High Voltage Laboratory, General Electric Co.

DP57-394. The New Thyrite Magnevalve Distribution Arrester. T. J. Carpenter, E. A. Evans, G. E. Desaulniers and E. C. Sakshaug, General Electric Company.

DP.* Expanding System Requirements Indicate Need for More Severe Arrester Tests. G. Fred Lincks, General Electric Company.

Thursday, May 2

9:30 A.M.—Transmission and Distribution

DP.* 1956 Lightning Field Investigation on the OVEC 345 KV System. W. S. Price and R. H. Schlomann, American Gas & Electric Service Corporation.

DP.* Field Studies of the Surge Response of a 345 KV Transmission Tower and Ground Wire. G. D. Breuer, General Electric Co.; W. S. Price and R. H. Schlomann, American Gas & Electric Service Corporation; A. J. Schultz, General Electric Company.

DP.* Lightning Performance of 138 KV Twin Circuit Transmission Lines of Commonwealth Edison Company — Operating Experience and Field Studies. R. Caswell, Commonwealth Edison Company; I. B. Johnson, General Electric Company; E. Koncel, Commonwealth Edison Company; N. R. Schultz, General Electric Co.

DP.* Analytical Studies on Lightning Phenomena Involving Towers, Insulator Strings and Transmission Lines. I. B. Johnson and A. J. Schultz, General Electric Company.

DP.* Suspension Insulator Flashovers Under High Impulse Voltages. Bruce Kingsbury, General Electric Company.

9:30 A.M.—Communication and Electronics

DP.* Propagation of Radio Waves via the Troposphere over Distances Far Beyond the Horizon. James F. Roche, Lincoln Laboratory, Massachusetts Institute of Technology.

DP57-574. Current Trend in High Frequency Transistors. Dr. Kurt Lehovec and R. Zuleeg, Sprague Electric Company.

DP57-536. Low-Level DC-AC Conversion. E. Keonjian and J. D. Schmidt, General Electric Company.

DP.* Review of Potential Applications of Semiconductor Devices in Television Receivers. W. F. Palmer and G. Schiess, Sylvania Electric Products, Inc.

DP.* Transistor Driven Magnetic Counters. H. N. Putschi, General Electric Company.

9:30 A.M.—Electric Heating and Air-Conditioning

DP.* Application of Electrical Equipment to Railway Mobile Freezers. W. H. Kuklinski, Carrier Corporation, and D. B. Seymour, Westinghouse Electric Corporation.

DP.* Heat Pumps: Residential, Commercial and Industrial. Paul F. O'Neil, General Electric Company.

DP.* Compound Air Source Heat-Pump. H. E. Taylor and P. L. Sackett, Borg-Warner Corporation.

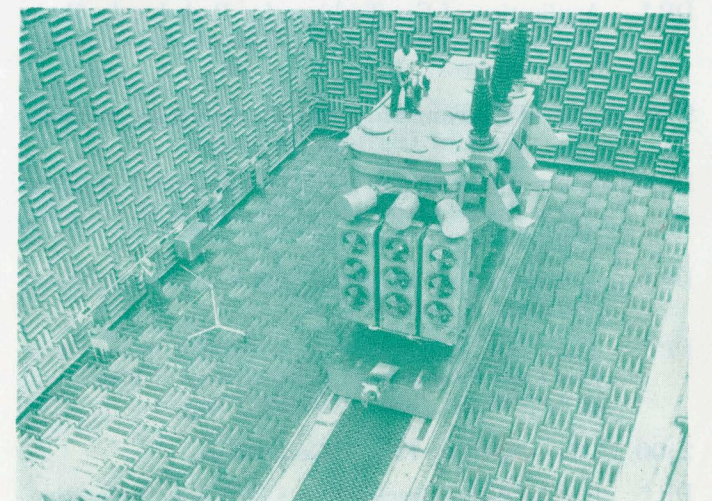
DP.* Heat Losses and Heat Gains in Electrically Heated Homes. J. B. C. Thomas, Hartford Electric Light Company, D. W. Rosebrugh, Connecticut Light and Power Company, and P. P. Dzabay, Connecticut Light and Power Company.

2:00 P.M.—Transmission and Distribution

56-733. A New Approach to the Calculation of the Lightning Performance of Transmission Lines. C. F. Wagner, Westinghouse Electric Corporation.

DP.* Calculation of Transmission Line Lightning Voltages by Field Concepts. R. Lundholm, Goteborg, Sweden; R. B. Finn, Jr., and W. S. Price, American Gas and Electric Service Corporation.

DP.* An Hypothesis Concerning Lightning Phenomena and Transmission Line Flashover. I. B. Johnson and A. J. Schultz, General Electric Company.



Anechoic Chamber, G. E. Sound Laboratory

DP.* Factors Affecting the Lightning Performance of Transmission Lines. J. H. Hagenguth and J. G. Anderson, General Electric Company.

2:00 P.M.—Survey of Computers and Their Application

DP.* A Survey of Engineering Applications of Digital Computers. R. Habermann, General Electric Company.

DP57-562. Progress in Computing. E. L. Harder, Westinghouse Electric Corporation.

DP57-538. Analog and Digital Computers in the French Electric Power Production, Transmission and Distribution Industry. Jean M. Carteron and Francois M. Cahen, Electricite de France.

DP.* Application of Computers to Business Systems. M. E. Salverson, General Electric Company.

2:00 P.M.—Electric Heating and Air Conditioning

DP.* Home Heating with Imbedded Wires. R. C. Cressman, General Electric Company.

DP.* Electric Space Heating and Cooling by Storage of Heated or Chilled Water. J. M. Turnbull and G. C. Jamison, Western Massachusetts Electric Company.

DP57-546. Operating Costs of an Electrically Heated School. R. L. Boyd, Electromode Division, Commercial Controls Corporation.

DP57-539. Heat-Pump and Heating-Cables Installed in the Same Residence for Data Purposes. C. W. Jones and E. E. Linden, The Narragansett Electric Company.

Friday, May 3

9:30 A.M.—Student Prize Papers

9:30 A.M.—Power Generation

DP.* Application of Relays to Turbine Generators. B. L. Lloyd, Westinghouse Electric Corporation.

DP.* Steam Turbine Generators with Liquid Cooled Starters. R. C. Buell, General Electric Company.

DP.* Gas Turbine—An Economic Method of Firming Generation. W. H. Ferguson, Westinghouse Electric Corporation.

DP.* Application of Gas Turbines for Peak Loads. H. A. Carlson, J. F. Hill and W. D. Marsh, General Electric Company.

9:30 A.M.—Programming and Engineering Applications of Digital Computers

DP57-540. An Application of a Digital Computer to Electric Power Distribution Systems Economics. R. C. Ender, General Electric Company.

DP.* Automatic Programming. Miss S. G. Fleming, General Electric Company.

DP.* Three Years Operating Experience with the Pittsfield Card Programmed Calculator. H. J. Mason and S. B. Williams, General Electric Company.

2:00 P.M.—Nuclear Power Generation

DP.* Boiling Water Reactor Plants for Power Generation. D. B. Henderson, General Electric Company.

DP.* Yankee Atomic Electric Plant. G. A. Read, Yankee Atomic Electric Company; R. J. Creagan, Westinghouse Electric Corporation; and W. C. Woodman, Stone and Webster Engineering Corporation.

DP.* Effect of Nuclear Power on Future Power Systems. A. G. Mellor, General Electric Company.

2:00 P.M.—Design and Operation of Digital Computers

57-542. Design of Long Passive Oscilloscope Probes to Simplify Maintenance of Large Digital Computers. W. F. Santelmann and A. J. Hingston, Lincoln Laboratory, Massachusetts Institute of Technology.

DP57-543. A Short-Access Time Memory Using Two Cores per Bit. R. L. Best, Lincoln Laboratory, Massachusetts Institute of Technology.

DP57-544. Digital Computer Display Systems. B. M. Gurdley, Lincoln Laboratory, Massachusetts Institute of Technology.

2:00 P.M.—Dielectrics

DP.* Prebreakdown Currents in Gases in Uniform Fields. Professor Leon H. Fisher, New York University.

DP57-545. A System of Dielectrics. C. H. Spaderna, Norton Company.

DP.* A Comparison of Today's Rubber and Rubber-Like Cable Insulation and Jackets. John K. Andrews, Collyer Insulated Wire Company.

DP.* Corona Measurements. Wendell T. Starr, General Electric Company.

DP.* Re-ignition of Short Arcs at High Pressures. Professor L. P. Winsor, Rensselaer Polytechnic Institute.

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sively by Crane and Company cannot be seen, visitors will observe similar processes making either stationary or bond paper. The company museum will also be open.

The trip to the General Electric plant, which produces small cut-outs to the largest power transformers, will feature inspection of the High-Voltage Laboratory where the world's largest man-made lightning stroke has been exploded, the Sound Laboratory including the first anechoic chamber for the measurement of sound in giant electrical apparatus, and the latest giant computer which helps in the designing of power transformers.

The members of the 1957 North Eastern District Meeting Committee are: J. O. Sweeny, General Chairman; J. C. Russ, Vice Chairman & Secretary; H. S. Hubbard, Adviser; W. A. McMorris, Chairman—Meetings & Papers; B. N. Bowers, Chairman—Registration & Reservations; J. C. Church, Chairman—Student Meeting; F. H. Judkins, Chairman—Finance; W. A. Williams, Chairman—Ladies' Arrangements; R. M. Butler, Chairman—Publicity; W. J. Degnan, Chairman—Inspection Trips & Transportation; W. F. Dripps, Chairman—Meeting Room Arrangements; S. B. Howard, Chairman—Dinner Dance; S. C. Leonard, Chairman—Smorgasbord; W. G. Deuring, Chairman—Exhibits; B. A. Cogbill, Treasurer & Budget Chairman.

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