

MIDDLE EASTERN DISTRICT MEETING



Featuring:

Air and Marine Transportation



Washington, D. C., October 5-7, 1948

Headquarters:
Statler Hotel



The Navy's largest airplane, the CONSTITUTION, with two complete decks connected by spiral staircases—wing span 189 feet, length 156 feet, powered with four Pratt and Whitney engines totaling 12,000 horsepower

WASHINGTON, D. C. will be host to the Middle Eastern District Meeting, October 5-7, 1948, with headquarters in the Statler Hotel. Eight of the twenty technical sessions will feature electrical applications in Air and Marine Transportation. The Air Transportation Committee has selected this meeting for their principal technical sessions of the year. Members of the Middle Eastern District Executive Committee will meet Monday, October 4, at 10:00 a.m. in the Capitol Room of the Statler. Four Inspection Trips of general interest have been scheduled. Entertainment includes a Smoker, Dinner-Dance and Ladies' Program.

GENERAL SESSION: Dr. William McClellan, Past-President of the Institute, will introduce Dr. E. U. Condon, Director of the National Bureau of Standards, who will make the opening address to the meeting at 10:30 a.m. Tuesday, October 5, in the Congressional Room. His topic will be "The Electrical Work of the National Bureau of Standards" and will be illustrated by slides.

THE SMOKER: This popular event will be held in the Presidential Room at 7:00 p.m. Tuesday, October 5. A program of outstanding entertainment has been arranged. Tickets, \$8.00 per person.

THE DINNER DANCE is scheduled for Wednesday evening, October 6, at 7:00 p.m. in the world famous Presidential Room. Dr. R. D. Bennett, Chairman, Washington Section, will act as Toastmaster. President Everett S. Lee will address the dinner guests. After the

presentation of student awards there will be dancing to one of Washington's most popular orchestras. Dress is optional. Tickets, \$6.50 per person.

LUNCHEONS: The Presidential Room has been reserved for luncheons at 12:30 p.m., Tuesday, Wednesday, and Thursday on a pay as you go basis.

LADIES' ENTERTAINMENT: The ladies' committee wishes to extend a cordial invitation to the wives of members. A suite of rooms will be open to the ladies at all times to provide for their comfort and to serve as a meeting place for old and new acquaintances. The following program has been arranged:

Tuesday, October 5

7:00 p.m.—Informal supper-game party in the Federal Room of the Statler Hotel. Excellent prizes have been donated. Tickets: \$4.50 per person.

Wednesday, October 6

10:00 a.m.—Sight-seeing trip to Mt. Vernon. Buses travel by way of beautiful Memorial Drive, which follows the Potomac River through historic Alexandria, Virginia.

(Continued on page 4)

AIEE MIDDLE EASTERN DISTRICT MEETING PROGRAM — Washington, D. C., October 5-7, 1948

ADVANCE COPIES OF PAPERS

Members may obtain preprints of technical papers at the uniform price of **30¢ each (60¢ each to non-members)** by sending enclosed order form and remittance to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y. Conference papers denoted by CP* are intended for presentation only, and are not 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. Most of the papers ultimately will be published as AIEE PROCEEDINGS and in the TRANSACTIONS.

Tuesday, October 5

2:00 p.m.—Air Transportation

S. D. SUMMERS, Presiding

- CP.* Electrical Requirements for Naval Aircraft. Capt. A. H. Bergeson, U. S. N., Bureau of Aeronautics.
- 48-213. Analysis and Redesign of a Carbon Pile Voltage Regulator for Aircraft Generators. W. B. Kouwenhoven and G. J. Thaler, The Johns Hopkins Univ.
- 48-214. Aircraft Carbon Pile Voltage Regulators, Fundamentals and Design Improvements. B. O. Austin and H. H. C. Richards, Westinghouse Elec. Corp.
- CP.* Personnel Safety in Aircraft High-Voltage Electrical Systems. M. H. Adolphe, Lockheed Aircraft Corp.

2:00 p.m.—Power

D. C. VAUGHAN, Presiding

- 48-212. The True Dielectric Breakdown Strength of Electric Cable Insulating Papers. Paul Cloke and Burt Bates, Univ. of Maine.
- CP.* Directional Effects in Dielectric Properties of Molded Rubber. Arnold H. Scott, National Bureau of Standards.
- 48-216. An Experimental Investigation of the Electrical Performance of Bolted Aluminum to Copper Connections. W. F. Bonwitt, Burndy Engg. Co., Inc.

2:00 p.m.—Electrical Instruments

F. B. SILSBEE, Presiding

- 48-217. Naval Ordnance Laboratory Six-Trace Cathode Ray Oscilloscope. P. L. Edwards, Naval Ordnance Laboratory.
- 48-218. A Precision Electrothermic Voltmeter for Measurements between 20 and 20,000 CPS. F. L. Hermach, National Bureau of Standards.
- 48-219. Performance of Portable Electrical Instruments in Magnetic Fields. A. E. Peterson, National Bureau of Standards.
- CP.* Effects of Harmonics on Watthour Meter Registration. A. G. Ennis, The Johns Hopkins Univ.

2:00 p.m.—Marine Transportation

R. A. BECKMAN, Presiding

- CP.* Special Discussion. Capt. R. E. Cronin, U. S. N.
- 48-220. Silicone Insulation in Submarines—Toxicity. H. P. Walker, Bureau of Ships, Navy Department; T. E. Shea, Jr., Naval Medical Research Inst.
- 48-221. Functional Evaluation of Insulating Materials. K. N. Mathes, General Elec. Co.
- 48-222. Magnetic Amplifiers for Naval Shipboard Applications. L. W. Buechler, Bureau of Ships, Navy Department.

Wednesday, October 6

9:00 a.m.—Air Transportation

H. F. REMPT, Presiding

- 48-215. Sensitive Relay Contact Protection Systems. J. P. Dallas and T. H. McCully, Hughes Aircraft Co.

- 48-203. Protection of the Airplane Main Bus. D. W. Exner, Boeing ACO,† Airplane Co.
- 48-223. Proposed Circuit for Aircraft Reverse Current Cutout. J. W. Marzolf, Naval Research Lab.
- 48-224. A Polarized Relay as an Aircraft Control Element (Demonstration). R. E. Johnson and F. A. Glassow, Barber-Colman Co.

9:00 a.m.—Illumination, Joint Session I.E.S.—AIEE

C. S. WOODSIDE, Presiding

- CP.* Sources for Projection Equipment. John A. Bartlett, Research and Development Labs., Fort Belvoir.
- CP.* Modulated Light Sources. W. S. Huxford, Northwestern Univ.
- CP.* Atmospheric Transmissometry. C. A. Douglas, National Bureau of Standards.
- CP.* Lamp Progress and Development in 1948. Alston R. General Electric Co., Nela Park.

9:00 a.m.—Naval Testing

GRANT C. RIGGLE, Presiding

- CP.* The Design of an Instrument Servomechanism to be used in Recording Ship Model Dynamometer. Henry Carleton, Taylor Model Basin.
- CP.* Safety Control Features of Towing Dynamometers at David Taylor Model Basin. L. G. Lehman, David Taylor Model Basin.
- CP.* The Electrical Design Features and Prediction of the Performance of the Navy's New 12-Motor High Speed Towing Dynamometer. S. E. Dawson, David Taylor Model Basin.

9:00 a.m.—Nuclear Engineering

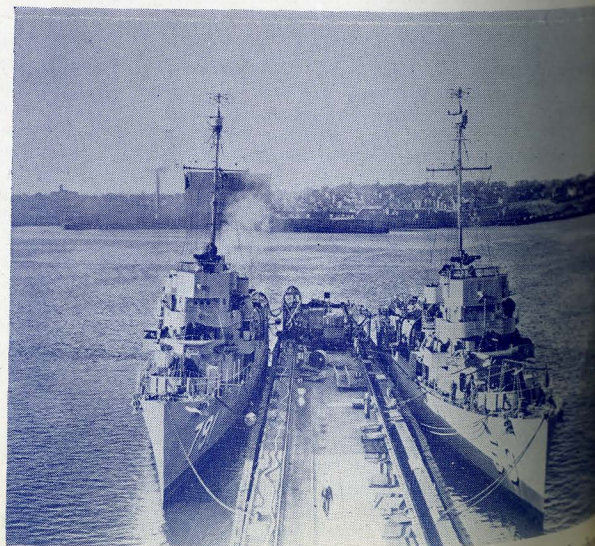
L. F. CURTISS, Presiding

- CP.* Survey of Radiation Measurement Methods. G. W. Deane, CP.* Power from Piles. Dr. C. R. McCullough.
- CP.* Relative Comparison of Various Types of Accelerators. Livingston.
- CP.* Instrumentation and Techniques of Protection from Radiation Injuries. K. Z. Morgan.

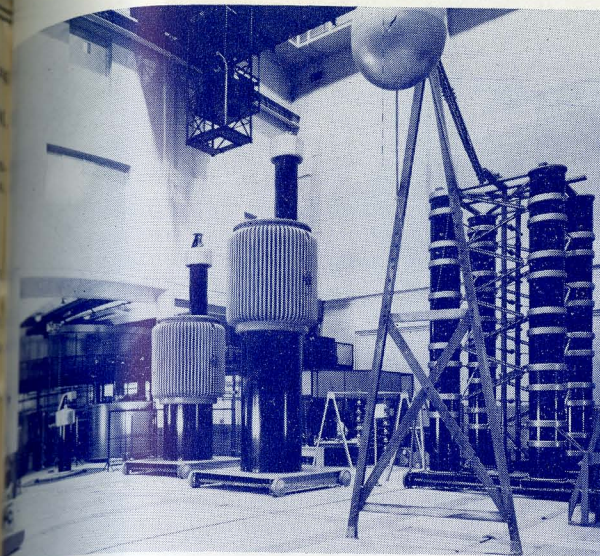
9:00 a.m.—Marine Transportation

W. N. ZIPPLER, Presiding

- 48-225. Selective Tripping Arrangements for Protection of A-C Electric Distribution Systems. J. R. Cole, Bureau of Ships, Navy Department.
- CP.* Development of Selective Tripping of Low Voltage Air Circuit Breakers. William Deans, I-T-E Circuit Breaker Co.
- 48-227. Shipboard Degaussing Installations for Protection Against Magnetic Mines. N. B. Michel, Bureau of Ships, Navy Department.



The use of propulsion generators on naval vessels to supply power will be discussed in one of the Marine sessions.



High Voltage Laboratory of the Bureau of Standards

- 48-228. Compensation of Effects of Degaussing Coils on Shipboard Magnetic Compasses by Use of Compass Compensating Coils. R. A. Robinson, Bureau of Ships, Navy Department.

2:00 p.m.—Air Transportation

J. D. MINER, Presiding

- 48-231. A 24,000-RPM Alternator for Aircraft. T. J. Martin, Jack and Heintz Precision Ind., Inc.
- 48-232. Steady-State Analysis of Aircraft D-C Generators. Ernest Van Valkenberg, Whitney Matthews, Naval Research Lab.
- 48-233. Electrical Pre-Rotation of Landing Gear Wheels. J. H. Keyser, Jr., formerly with Lockheed Aircraft Corp.
- 48-234. Aircraft Cockpit and Instrument Lighting (Demonstration). J. M. Roper, Bureau of Aeronautics, Navy Department.

2:00 p.m.—Power

D. C. VAUGHAN, Presiding

- 48-231. Effects of Silicone Vapor on Brush Wear. J. Marsden and Robert H. Savage, General Elec. Co.
- 48-231. Use of Propulsion Generators on Naval Vessels to Supply Shore Power. F. E. Anderson, W. H. Fifer, Bureau of Ships, Navy Department.
- 48-232. Use of Power in Military Floating Dry Docks of the U. S. Navy. W. W. Newland, Bureau of Yards and Docks, Navy Department.
- 48-232. Origin of the Electric Motor. Joseph Michalowicz, Catholic Univ. of America.

2:00 p.m.—Communications

V. B. BAGNALL, Presiding

- 48-231. Military Meteorological Communication. Major J. M. Van Arsdell, U. S. Army.
- 48-231. Multi-Point Networks for Telephone and Telephotographic Services. E. Nichols, American Tel. and Tel. Co.
- 48-232. Facsimile Transmission for Pickup and Delivery of Telegrams. G. H. Ridings, Western Union Teleg. Co.

2:00 p.m.—Electrical Engineering Development

F. M. DEFANDORF, Presiding

- 48-234. Automatic Standing Wave Indicator. P. J. Allen, Naval Research Laboratory.
- 48-235. Certain Characteristics of the Human Servo. F. V. Taylor, Naval Research Laboratory.
- 48-236. Recent Research on Pulsed Light Sources. W. T. Whelan, Naval Ordnance Lab.
- 48-237. External Magnetic Field Patterns Surrounding Minute Portions of Recording Wires. I. L. Cooter, National Bureau of Standards.
- 48-238. The Magnetic Fluid Clutch. Jacob Rabinow, National Bureau of Standards.

Thursday, October 7

9:00 a.m.—Air Transportation

J. W. ALLEN, Presiding

- 48-229. A Rectified A-C Electric System for Aircraft. L. M. Cobb, ACO,† W. L. Kershaw, Q. E. Erlandson, The Glenn L. Martin Co.
- 48-239. Starter-Generator Control System for a Multijet Engine Airplane. V. B. Hart, Boeing Aircraft Co.
- CP.* Lockheed "Constitution" Electrical Test Program (Conference Paper). H. F. Rempt, Lockheed Aircraft Corp.
- 48-240. Ground Power for Aircraft. J. H. Blankenbuehler, Hobart Brothers Co.; and the Motor Generator Corp. of Troy, Ohio.

9:00 a.m.—Rural Electrification

WADE EDMUNDS, Presiding

- 48-241. Rural Distribution Voltages. W. M. Edmunds, G. B. Roloson, Rural Electrification Adm.
- 48-242. A Survey of Inductive Coordination Practices in Rural Areas. ACO,† M. W. Rothpletz, H. S. Williams, Rural Electrification Adm.
- CP.* Off-Peak Control of Water Heaters on Rural Power Systems. H. W. Kelley and O. W. Zastrow, Rural Electrification Adm.

9:00 a.m.—Communication, Joint Session URSI—IRE—AIEE

THOMAS J. CARROLL, Presiding

- CP.* A Report on the New York-Boston Radio Relay System. C. A. Borgeson, American Tel. and Tel. Co.
- CP.* Washington Television Installations of N. B. C. Donald Cooper, National Broadcasting Company.
- CP.* Progress in Air Transport Radar. Lt. Comdr. E. W. Harrison, Navy Department.
- CP.* Electronic Heating. R. N. Harmon, Westinghouse Electric Corp.

9:00 a.m.—Marine Transportation

W. H. FIFER, Presiding

- CP.* Magnetic Minesweeping Systems. J. F. Condon, H. M. Koslow, Bureau of Ships.
- 48-226. Ventilation of Rotating Electrical Equipment on Shipboard. A. M. Harrison, Westinghouse Elec. Corp.
- 48-244. Electric Propulsion in Naval Surface Vessels. N. T. Jucarone, Bureau of Ships, Navy Department.

2:00 p.m.—Naval Testing

S. E. DAWSON, Presiding

- CP.* The Development of Instruments to Measure Performance of the Navy's New 8-inch Rapid Fire Gun. Edward Wenk, Jr., David Taylor Model Basin.
- CP.* The Design of Light-Weight Velocity Meters for Measuring High Shock. Grant C. Riggle, David Taylor Model Basin.
- CP.* A Measurement System for the Determination of Minute Charges in Capacitance. G. W. Cook, David Taylor Model Basin.
- CP.* Instrumentation for and the Conduct of Full-Scale Trials of Naval Vessels. W. R. Romaine, David Taylor Model Basin.

2:00 p.m.—Government Relations

C. E. BENNETT, Presiding

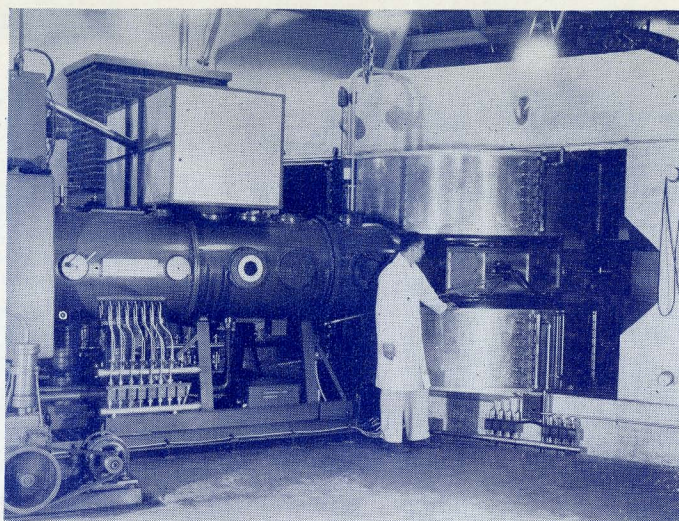
- Address: "Supervisory Aspects of Government." P. H. Thomas, Federal Power Comm.
- Address: "Discussion on Development of Electric Power by Government." H. J. McPhail, Bureau of Reclamation.
- Address: "Government in Relation to Communications." E. W. Allen, Federal Communications Comm.

2:00 p.m.—Marine Transportation

H. C. COLEMAN, Presiding

- 48-245. Overload Protection for Silicone Insulated Motors for Shipboard Use. J. C. Grigg; J. E. Watkins, Bureau of Ships, Navy Department.
- CP.* Improving Internal Lighting in U. S. Naval Vessels. E. Boghosian, Bureau of Ships, Navy Department.
- 48-246. Effective Resistance and Inductance of Three-Conductor Shipboard Power Cables. S. D. Summers, Naval Research Labs.
- Discussion of Proposed Revisions to AIEE Standard No. 45 (Electric Installations on Shipboard). To be led by members of AIEE Committee on Marine Transportation.

- CP.* Conference paper; no advance copies are available; not intended for publication in TRANSACTIONS.
- ACO,† Advance copies only available, not intended for publication in TRANSACTIONS.



Side view of Cyclotron of the Carnegie Institution of Washington which shows the magnet, vacuum chamber, and Dee-stem housing

There will be a stop over at Mt. Vernon to allow a leisurely inspection of the mansion and grounds.

On the return trip, a stop will be made at Collingwood Inn for luncheon on the terrace overlooking the Potomac. Collingwood itself is a showplace having been converted to an Inn from an old Southern home. Tickets: \$3.50 per person which includes sight-seeing and lunch.

7:00 p.m.—Dinner-Dance.

Thursday, October 7

9:30 a.m.—Sight-seeing trip or Shopping. A sight-seeing trip has been arranged to visit points of interest in and around Washington. Tickets: \$2.10 per person.

For those who prefer, this time could be used for a shopping trip along Connecticut Avenue or F Street. Maps will be available.

INSPECTION TRIPS to the following points have been arranged. Busses will be provided, starting from the Statler Hotel headquarters at the time indicated. Tickets will be at the prices shown to cover cost of transportation.

1. Carnegie Institution of Washington—Thursday, 9:30 a.m., 10:30 a.m.

Two trips of approximately 40 persons each to show the 60-inch 15,000,000-volt cyclotron, the 5,000,000-volt Van de Graaf electrostatic generator, the 1,000,000-volt Van de Graaf electrostatic generator with brief discussions of the application of these machines to the problems of nuclear physics. Trip for each group will occupy from one to 1½ hrs. 60 cents per person.

2. Navy Department—David Taylor Model Basin Research Laboratory, Carderock, Maryland—Wednesday, 1:30 p.m.

This laboratory is the largest ship model and airplane model testing station in the world. The test basin is 3/5 mile long. Opportunity will be given to see testing of underwater bodies, the design of carriages for towing models, electrical brakes, etc. The tour will include the model shop to see the way model forms are made and equipped for measuring. Proof of American Citizenship required to make inspection.

Aliens required to obtain clearance through their Embassy for the visit, from the chief of Naval Intelligence. 75 cents per person.

3. Washington National Airport—Thursday, 1:30 p.m.

Tour of aircraft and engine overhaul shops, Control Tower, Airways Traffic Control, Radar installation and Weather Bureau. Also tentative arrangements made with Navy Department, Bureau of Aero-

navics for inspection of giant Navy airplane "Constitution" if the Constitution can be in Washington on that date. Other late types of commercial airplanes will be on display. 75 cents per person.

4. National Bureau of Standards—Thursday, 1:30 p.m.

Tour of High Voltage Laboratory, Electrical Standards Laboratories, Electronics Laboratories, Laboratories on Radio Transmission and Engineering Mechanics and Structural Testing. The tours will include exhibits or demonstrations of electronics circuits, resistance standards, standard cells, calibration and testing of electrical instruments and meters. As a matter of special interest, opportunity will be given to see and hear about the new magnetic fluid clutch recently developed by a Bureau of Standards scientist. 60 cents per person.

HOTELS: Reservations will be available at the Hotels listed below with rates as shown. Members should forward the enclosed "Application for Hotel Accommodations" form promptly to the Hotel of their choice. Confirmation will be made directly by the Hotel accepting the reservation.

HOTELS AND RATES

	Single	Twin Bedded
Statler	\$4.50-\$11.00	\$9.00-\$13.50
Carlton	6.00- 8.00	9.00- 11.00
Hamilton	4.50- 5.00	7.00- 8.00
Hay Adams	4.50- 7.00	8.00- 9.50
Lee Sheraton	4.50- 6.00	7.00- 9.00

ADVANCE REGISTRATION: Advance registration cards should be filled out as soon as possible and forwarded to Mr. J. O. Pease, Chairman, Registration and Housing Committee, Rumsey Electronics Company, 219 Southern Building, Washington 5, D. C. Prompt action will greatly assist the committees making arrangements for the meeting and save time upon arrival. A nonmember registration fee of \$2.00 will be charged all nonmembers except Enrolled Students and the immediate families of members.

DISTRICT MEETING COMMITTEE: Members of the District Meeting Committee are as follows: William McClellan, Honorary Chairman; Fischer Black, General Chairman; W. F. Dietz, Arrangements; D. K. Steidinger, Secretary-Treasurer; D. S. Bender, Technical Meeting; J. S. Antel, Students; R. D. Bennett, Special Meetings; L. H. Cleary, Finance; I. F. Conrad, Publicity; F. B. Cride, Smoker; C. H. Giroux, Sports; Mrs. W. J. Lank, Ladies; W. J. Lank, Entertainment; D. Lewis, Dinner; J. O. Pease, Registration; G. R. Wilhelm, Inspection Trips.

Issued by
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
33 West 39th Street, New York 18, N. Y.

PRINTED IN U.S.A.