

Middle Eastern District Meeting

May 7-9, 1962

Wilmington, Delaware

Headquarters
Hotel du Pont



SCHEDULE OF EVENTS

Sunday—May 6

- 2:00 P.M. to 5:00 P.M.—
Registration Begins
- 3:00 P.M. to 5:00 P.M.—
Informal Tea

Monday—May 7

- 8:30 A.M. to 4:30 P.M.—
Registration
- 9:00 A.M.—Ladies' Coffee Hour
- 9:00 A.M.—Technical Sessions
- 12:00 NOON—General Session and
Luncheon
- 2:00 P.M.—Technical Sessions
- 2:30 P.M. to 5:00 P.M.—
Inspection Trip—
Spitz Lab.
- 7:00 P.M.—Trip to Longwood
Gardens
(7:45 P.M.—Conservatory,
8:45—Fountain Display)

Tuesday—May 8

- 8:30 A.M. to 4:30 P.M.—
Registration
- 9:00 A.M.—Ladies' Coffee Hour
- 9:00 A.M.—Technical Sessions
- 9:00 A.M.—Inspection Trip—
Tidewater Oil Refinery
- 9:30 A.M. to 3:00 P.M.—Trip to
Winterthur (Ladies
and Gentlemen)
- 2:00 P.M.—Technical Sessions
- 7:00 P.M. to 1:00 A.M.—
Dinner-Dance
(7:00: Cocktail Hour,
8:00: Dinner & Dance)

Wednesday—May 9

- 8:30 A.M. to 2:00 P.M.—
Registration
- 9:00 A.M.—Ladies' Coffee Hour
- 9:00 A.M. to 12:15 P.M.—
Inspection Trip—Chest-
nut Run Laboratory of
E. I. du Pont de Nemours
and Co.
- 9:00 A.M.—Technical Sessions
- 2:00 P.M.—Technical Sessions



View of Wilmington, Delaware.

POWER, PETROLEUM, AND CHEMICALS—THRU ELECTRICAL ENGINEERING

The AIEE Middle Eastern District Meeting will be held at the Hotel du Pont on May 7, 8, and 9, 1962. There will be sixty-five papers in seventeen sessions, three inspection trips, two social events, two scenic trips, and a General Session.

INFORMAL TEA: This reception tea will open the social activities on Sunday afternoon, May 6 from 3:00 to 5:00 P.M. in the Georgian Room on the top floor of Hotel du Pont. Members of the Ladies' Activities Committee will be present to welcome visiting members and guests.

GENERAL SESSION: This event will be held at a luncheon in the Gold Ball Room at noon on Monday, May 8. The Mayor of Wilmington will give a welcoming address. The Vice President of District #2, Mr. Thomas E. Marburger and Mr. J. E. Guidry, Chairman, Prize Papers Committee, District #2 will present the prize paper awards. The principal address will be delivered by Mr. C. E. Daniels, Assistant Chief Engineer, E. I. du Pont de Nemours & Co. and introduced by Mr. Frank P. Hyer, Chairman of the Board and Chief Executive Officer, Delaware Power & Light Co. The cost of the luncheon is \$3.00.

TECHNICAL SESSIONS: The program of technical sessions has been planned for the engineers in this large industrial area. The papers cover petroleum industry, aero space systems, nuclear power, instruments and controls, insulation, chemical industry, automation, and switchgear. Sixty-five papers will be presented at seventeen sessions to be held each morning and afternoon.

REGISTRATION: The foyer of the Gold Ballroom has been set aside for registration, ticket sales, and technical paper sales. On Sunday the registration desk will be open from 2:00 to 5:00 P.M., Monday and Tuesday the desk will be open from 8:30 to 4:30 P.M., while on Wednesday the desk will be open from 8:30 to 2:00 P.M. Registration fees will be as follows:

Continued on page 4

MIDDLE EASTERN DISTRICT MEETING

TECHNICAL PROGRAM

ADVANCE COPIES OF PAPERS

Members may obtain preprints of numbered papers at the uniform price of 50¢ each (\$1.00 each to nonmembers), by sending enclosed order form and remittance to the AIEE Order Department, 345 East 47th Street, New York 17, 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.

Monday, May 7

9:00 a.m. — Petroleum I

Playhouse Lobby

Chairman: S. P. AXE, Atlantic Refining Company

CP61-994. Application of Electric Tracing in Petroleum Chemical Plants. R. G. Medley and W. A. Shafer, Union Carbide Chemical Company.

DP.* Intrinsic Safety. W. F. Hickers, Foxboro Company.

DP62-811. Digital Telemetering for Pipeline Systems. P. D. Woodruff, General Electric Company. (Presented by P. Schirmer)

DP.* Cathodic Protection for Docks in Petroleum Industry. H. L. Koppel, Atlantic Refining Company.

9:00 a.m. — Communications

Du Barry Room

Chairman: E. E. BURNETT,

Bell Telephone Company of Pennsylvania

DP.* New Bell System Exchange Teletypewriter Services. A. W. Duerig, Bell Telephone Company of Pennsylvania.

DP.* Concentrator Security Switching. E. J. Ward, Westinghouse Electric Corporation.

DP.* The Use of an Artificial Line as an Analog Computer. E. G. Carlson, Bell Telephone Company of Pennsylvania.

DP.* Interference Considerations in Large Radar and Communications Systems. O. M. Salati, University of Pennsylvania.

9:00 a.m. — Automation

Nemours Auditorium

Chairman: A. H. HUELSMAN, General Electric Company

DP.* Concepts and Approaches for Process Computer Systems in Industry. J. W. Holt, General Electric Company.

DP.* Automation — Cement Industry. M. F. Gay, Allis Chalmers Manufacturing Company.

DP.* X-Ray Chemical Analysis and Automation in Industry. Amos Furbee, General Electric X-Ray Company.

DP.* Instrumentation and Automation in Industry. O. V. Kuerhmann, Leeds & Northrup Company.

2:00 p.m. — Insulation — Laminated

Nemours Auditorium

Chairman: C. D. PALMER, E. I. du Pont de Nemours and Company

DP62-821. Adaptability of Welded Corrugated Cable Sheath for Special Applications. P. H. Ware, Simplex Wire & Cable Company.

DP.* Polyester Film Laminates for Wire Insulation. W. L. Gore, W. L. Gore Associates.

DP.* Voltage Endurance and Corona Resistance of Oriented Mica Flake. R. L. Bowman, Minnesota Mining and Manufacturing Company.

DP.* Insulation Selection in Power Transformers. W. H. Mutzschler, Allis Chalmers Manufacturing Company.

2:00 p.m. — Petroleum II

Playhouse Lobby

Chairman: S. P. AXE, Atlantic Refining Company

CP61-990. Refinery Power System Planning for Serving Large Motor Loads. G. W. Cunningham, General Electric Co.

DP62-817. Static Excitation for Synchronous Motors in Petroleum Refineries. E. R. Hoyle, Sinclair Refining Company and M. N. Halberg, General Electric Company.

DP.* Inherently Protected Motors for the Petroleum Industry. L. S. Sherman, General Electric Company.

DP.* The Use of Silicone Rubber Insulated Drip-proof Motors in Petroleum Refineries. J. Howard, American Oil Company.

2:00 p.m. — Switchgear

Du Barry Room

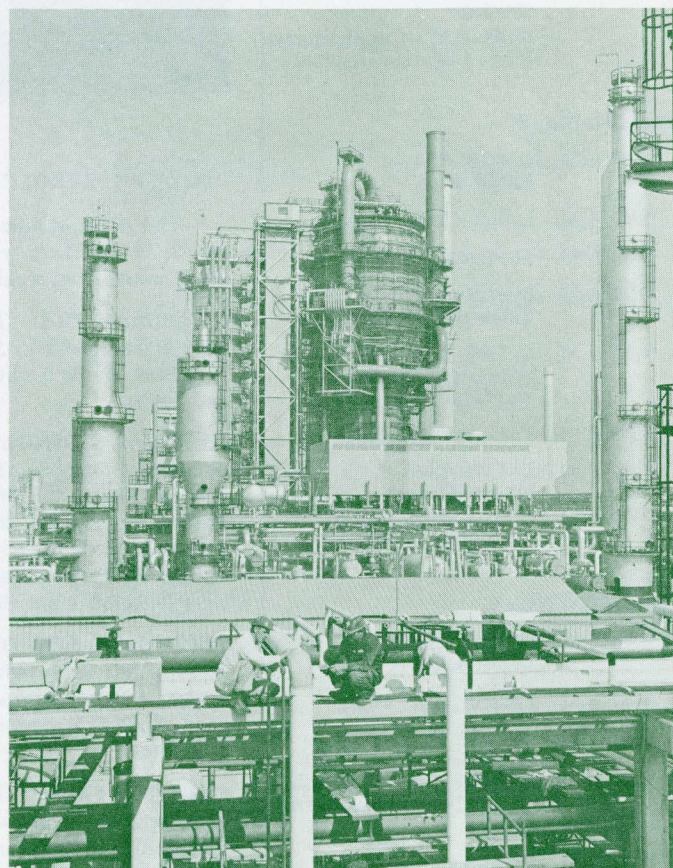
Chairman: D. B. JONES, Westinghouse Electric Corporation

DP.* Plotting Resistance and Reactance Components for System Studies. E. W. Boehne, ITE Circuit Breaker Company.

DP.* The Application of High Voltage Power Fuses. F. L. Cameron, Westinghouse Electric Corporation.

DP.* Static Tripping Device for Low Voltage Breakers. R. L. Winship, Allis Chalmers Manufacturing Company.

DP.* A New Concept in Low Voltage Switchgear. T. G. Brennan, General Electric Company.



Tidewater Oil Refinery, Delaware City.

Tuesday, May 8

9:00 a.m. — Insulation — Wire & Cable

Nemours Auditorium

Chairman: M. M. GILBERT,

E. I. du Pont de Nemours and Company

DP.* Some Anomalies in Electric Measurements of Cable. J. B. Gardner, Kerite Corporation.

DP.* Outdoor Polyethylene Cable Termination without Potheads. R. H. Lee, E. I. du Pont de Nemours and Company.

DP.* Modern Wiring Techniques in Industry, I. J. R. Miller, E. I. du Pont de Nemours and Company.

DP.* Modern Wiring Techniques in Industry, II. E. A. Taylor, Edenfield Electric Company.

9:00 a.m. — Utilities — Research & Development

Playhouse Lobby

Chairman: R. M. HULL, Pennsylvania Power & Light

DP.* Thermal Loading of Power Transformers, A Re-appraisal. C. D. Repp, Pennsylvania Power & Light Company.

DP.* Aspects of Cathodic Protection. W. O. Reeside, A. V. Smith Engineering Company; R. W. Kubitz, A. V. Smith Engineering Company.

DP.* Report on Experience of Cathodic Protection of Steel Grounding Systems. J. K. McDonald, Senior Project Engineer, Pennsylvania Power & Light Company.

9:00 a.m. — Electronics — Aero Space

Du Barry Room

Chairman: J. J. SLATTERY, Martin-Marietta Corporation

DP.* Design of Transistor Differential Amplifiers. Keith Parthemore, E. I. du Pont de Nemours and Company.

DP.* "RAMPS" Programming System. Jack Marshman, CEIR, Arlington, Virginia.

DP.* The Space Age Challenge to Metrology. Les Long, Martin-Marietta Corporation.

62-818. Simulation of Doppler — Inertial Guidance System. K. A. I Fegley and C. N. Weygandt, The Moore School of E. E., University of Pennsylvania.

2:00 p.m. — Insulation — Wire & Cable

Nemours Auditorium

Chairman: J. R. PERKINS, E. I. du Pont de Nemours and Company

DP.* Neoprene, Polyethylene, "Hypalon" and Nylon and their use in Wire & Cable Construction — I — Thermoplastic Mtls. N. A. James, E. I. du Pont de Nemours and Company.

DP.* Ditto — II — Elastomeric Materials. F. Wayne Keeley, E. I. du Pont de Nemours and Company.

DP.* Surface and Volume Phenomena in Dielectric Breakdown of Polyethylene. E. J. McMahon and J. R. Perkins, E. I. du Pont de Nemours and Company.

DP.* Recent Advances in "Teflon" Fluorocarbon Resins as Electrical Insulations. G. R. Snelling, E. I. du Pont de Nemours and Company.

2:00 p.m. — Utility — Nuclear

Playhouse Lobby

Chairman: W. L. KERSHAW,

E. I. du Pont de Nemours and Company

62-815. A Method of Estimating Demand. W. W. Pleines and III K. V. Zajic, Baltimore Gas & Electric Company.

DP62-812. Load Capability of Bare ASCR and All-Aluminum Conductors based on Long-Time Outdoor Temperature-Rise Tests. J. C. Gorub and E. F. Wolf, Baltimore Gas & Electric Company.

DP.* Isotopic Power Generator in Space. D. G. Harvey, Martin-Marietta Corporation.

DP62-813. PM-1 & PM-3A Portable Nuclear Power Systems. J. F. O'Brien, Martin-Marietta Corporation.



E. I. du Pont de Nemours & Co. Chestnut Run Textile Research Laboratory.

2:00 p.m. — Aero-Space

Du Barry Room

Chairman: R. A. ENGLEHARDT, Martin-Marietta Corporation

DP.* Development of Transit Satellite Components. M. A. Schreiber and T. Wyatt, Johns Hopkins — Applied Physics Laboratory.

DP.* Ground Electrical Power for the Gemini Launch Vehicle. F. J. Rebrovich, Martin-Marietta Corporation.

DP.* Electric Propulsion for Future Space Missions. I. R. Schwartz, NASA.

DP.* Factory-Built Cables for the Titan Hard-Site Complex. E. C. Fehner, Martin-Marietta Corporation.

Wednesday, May 9

9:00 a.m. — Utilities — Underground vs. Overhead

Nemours Auditorium

Chairman: R. M. WILSON, Atlantic City Electric Company

DP.* Proposed Underground Distribution in Residential Developments. S. W. Kress, Pennsylvania Power & Light Company.

DP.* Competitive Aspects of Underground Residential Distribution. W. S. Cowart, Jr., Atlantic City Electric Company.

DP.* New Trends in Residential Underground Distribution. J. L. Barger, Line Material Industries.

DP.* Cable Development for Underground Residential Distribution. Robert Feller, Okonite Company.

9:00 a.m. — Instrumentation & Control

Du Barry Room

Chairman: J. MAX ROWE, E. I. du Pont de Nemours and Company

62-819. A Differential Thermocouple Voltmeter. J. E. Griffin and I F. L. Hermach, National Bureau of Standards.

DP.* Synchronizing Criteria for Reluctance Motors. Fred Meckley, E. I. du Pont de Nemours and Company.

DP62-820. Control Systems with Adjustable Damping Ratio for Optimum Transient Response. D. W. C. Shen and M. A. Espig, University of Pennsylvania.

9:00 a.m. — Chemical Industry I

Playhouse Lobby

Chairman: H. E. HOUCK, E. I. du Pont de Nemours and Company

DP62-814. Instrument and Process Control Power Supply Requirements for Continuous Chemical Process. B. R. Johnson, E. I. du Pont de Nemours and Company.

MIDDLE EASTERN DISTRICT MEETING

- DP62-621. Fundamentals of Cathodic Protection. Bernard Husock, Harco Corporation.
- DP.* Bus Bar Temperature Analysis by Computer. J. I. Ralph, E. I. du Pont de Nemours and Company.
- DP.* Instrumentation for Automatic Data Reduction. N. B. Kelly, E. I. du Pont de Nemours and Company.

2:00 p.m. — Chemical Industry II

Playhouse Lobby

Chairman: W. N. LIVERMORE,

E. I. du Pont de Nemours and Company

- DP.* Use of Phase Angle Meter in Industrial Plant Power Apparatus and Systems. T. L. Bourbonnais, E. I. du Pont de Nemours and Company.
- DP.* Wiring System for Control and Electronic Instrumentation of Chemical Plants. F. J. Poulouin, E. I. du Pont de Nemours and Company.
- DP.* Speed Control of Squirrel Cage Motors by Voltage Adjustment. P. H. Campbell, E. I. du Pont de Nemours and Company.
- DP.* Adjustable Speed Drives for Chemical Plant Equipment. R. N. Bell, E. I. du Pont de Nemours and Company.

2:00 p.m. — Utilities — Service Voltage Up-rating

Nemours Auditorium

Chairman: W. CREITZ, Metropolitan Edison Company, Reading, Pennsylvania

- DP62-816. Economics of Converting a Distribution System from 5 KV Delta to 13.2 KV Wye. R. M. Decker and W. A. Wickes, Cleveland Electric Illuminating Company.
- DP.* High Voltage Distribution above 15 KV. Lee Peppy, Line Materials Company.
- DP.* Service Reliability plus Fringe By-products. G. A. Ewald, Public Service Gas and Electric Company.

CONTINUED FROM PAGE 1

Members, \$4.00; Non-members, \$7.00; Ladies, \$2.00; and Students, no fee. Advance registration is requested. Hotel reservations and tickets for inspection trips and social events are limited. The registration card should indicate the events you plan to attend. No money should be sent with the card.

HOTEL RESERVATIONS: A block of rooms has been set aside at the Hotel du Pont, for members and guests attending the meeting. Requests for reservations should be sent to "Reservation Office," Hotel du Pont, Wilmington, Delaware referring to the AIEE meeting. A form is enclosed for this purpose. The block of rooms cannot be held after APRIL 21, 1962 for the AIEE group. If your request cannot be filled, the hotel will automatically arrange for a reservation at another hotel. Accommodations available per day are:

Single Bedroom	\$10.00	\$12.50	\$14.50
Double-Bed Room	\$14.00	\$16.50	\$18.50
Twin-Bed Room	\$16.50	\$18.50	\$28.00
Suite: Living Room, & Bedroom	\$42.50	\$44.50	\$46.50

All Rooms have private bath.

SOCIAL PROGRAM: Monday evening, May 7. Longwood Gardens. At 7:00 P.M. buses (Cost of \$1.50 each) will leave the hotel in time to arrive at Longwood (No cost) for the opening of the Conservatory at 7:45 P.M. The outside gardens as well as the Conservatory will be open to the group. At 8:45 P.M. the magnificent colored fountain display will start. Longwood Gardens was the country estate of Pierre S. du Pont from 1906 until he died in 1954. It is one of the outstanding display gardens in America. The Conservatory has many flowers including orchids.

Tuesday evening, May 8 — Gold Ballroom Dinner-Dance

The Cocktail Hour (Dutch Treat) will be from 7:00 to 8:00 P.M. in the DuBarry Room above the Gold Ballroom. The Dinner-Dance in the Gold Ballroom will be from 8:00 P.M. to 1:00 A.M. with music by a very fine local orchestra. Advance reservations may be made on the Advance Registration Card or by contacting Roger D. Miller, Cedarcroft, Kennett Square, Pa. Tables for eight may be reserved. Tickets: \$14.00 per couple. Business dress for the men. Cocktail or evening dress for the ladies.

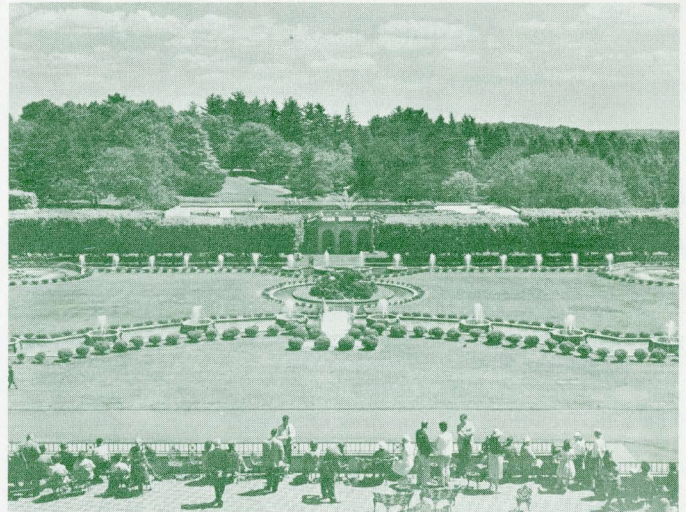


Photo by G. Hampfler

View of Fountain Area, Longwood Gardens.

LADIES' PROGRAM: Coffee Hour, 9:00 A.M.

A coffee hour will start at 9:00 A.M. each morning in the Georgian Room on the top floor of the Hotel du Pont. Hostesses will be there to greet the guests. This room will be available to the ladies during the entire meeting.

Tuesday, May 8 — 10:00 A.M. to 3:00 P.M. — Winterthur. This trip is one of the most interesting and colorful events of the meeting for ladies and men. This will include both a garden and museum tour of the Henry Francis du Pont Museum. Luncheon is available in the Garden Pavilion. Transportation is included with round trip from the Hotel du Pont. Fee is \$3.00. Buses depart at the hotel at 10:00 A.M. and return about 3:00 P.M.

INSPECTION TRIPS:

Monday, May 7 — Spitz Laboratories. The bus will leave the Hotel du Pont at 2:30 P.M. and arrive at the plant at 3:00 P.M. This plant will demonstrate a new small planetarium, combining techniques in optical — mechanical — electrical design for colleges, museums, or municipalities. They also make one under a dome of 50 feet in diameter. Cost is \$1.50.

Tuesday, May 8 — Tidewater Refinery. The bus will leave the Hotel du Pont at 9:00 A.M. and arrive at the refinery at approximately 9:30 A.M. The tour will be approximately two hours long and will cover all plant facilities including the unloading docks for huge tankers. The bus is expected to return to the hotel by 12:15 P.M. Cost is \$1.50.

Wednesday, May 9 — du Pont Chestnut Run Textile Research Laboratory. The bus will leave the Hotel du Pont at 9:00 A.M. and will arrive at Chestnut Run about 9:20 A.M. The tour will include the textile and elastimer laboratories. The bus is expected to return to the hotel by 12:15 P.M. Cost is \$1.50.

Middle Eastern District #2 Executive Committee Meeting — Tuesday, May 8 at 1:30 P.M. in the Hunt Room.

Members of the Middle Eastern District Meeting Committee — C. G. Tarkenton, General Chairman; F. A. Anderson, Vice Chairman; O. L. Shorter, Secretary; R. S. Forbes, Treasurer; R. J. Forman, Jr., Arrangements; C. S. Collier, Finances; H. Evans, Registration; R. H. Lee, Technical Program; E. H. Livermore, Jr., Inspection Trips; E. R. Detjen, Transportation; R. D. Miller, Entertainment; Mrs. E. L. Tarkenton, Ladies' Activities; B. J. Taylor, Publicity.

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