PACIFIC GENERAL MEETING
Portland, Oregon, August 20-23, 1951

Headquarters: Multnomah Hotel

MEETING FEATURES

Portland is famous as a host city to vacationers in the Pacific Northwest for its lovely homes and gardens, for cool summers and mild winters, and as an important center of commerce and industry. Ideally situated in the center of vast hydroelectric installations and natural resources, members of the Institute and their families should long remember the 1951 Pacific General Meeting to be held August 20-23. Headquarters for the meeting will be the Multnomah Hotel, near the center of the city, where arrangements have been made for a wide variety of technical sessions, social events, and entertainment. Reservations have been made for sufficient space for technical sessions and social events. A block of rooms has been reserved in the Multnomah and overflow reservations have been arranged for in adjacent hotels.

The opening session Monday, August 20, will be presided over by C. R. Carpenter who is Chairman of the General Committee. Dorothy McCollough Lee, Mayor of Portland, will deliver the welcoming address, and J. A. McDonald, Vice President, District No. 9 of AIEEE, will respond. Brigadier General O. E. Walsh, North Pacific Division Engineer, Corps of Engineers, U.S.A., will speak on “The Relationship of Hydroelectric Power to Water Development in the Columbia River Basin.”

TRANSPORTATION: The “City of Roses” is easily accessible by all means of transportation. For those motoring to the meeting, there are numerous modern scenic highways leading through cool valleys and timber covered mountains. Many national parks and the natural beauty of the country lures many vacationers. The Oregon coast, Crater Lake, Columbia River Gorge, Oregon Caves, and Mt. Hood are only a few of the breathtaking sights which will leave a lasting impression on the visitor. Major railroads and air lines serve the area.

INSPECTION TRIPS: The program of the 1951 Pacific General Meeting includes a wide variety of inspection trips to highlight the industry and natural resources of the Pacific Northwest. All those attending will want to take fullest possible advantage of the trips to supplement the technical sessions as well as view the beautiful scenery of the area while traveling to and from the sites. A nominal fee will be charged on most trips to cover transportation costs. Members are urged to sign up for the trips during registration as certain trips will be limited as to attendance. For security reasons, proof of citizenship will be required on several of the visits as indicated in the descriptions following.

Bonneville Power Administration’s J. D. Ross Substation, Vancouver, Washington (Monday 1:30 p.m.—4:30 p.m.) The J. D. Ross substation is a large modern transformer substation located a short distance from the northern city limits of Vancouver, Washington. It is the termination of two 230 kv lines from Bonneville Dam, where a tie-in is made with lines from Grand Coulee Dam, and of a single 230 kv line north to the Puget Sound area. Two 35,000 kva synchronous condensers and a 20,000 kvar bank of shunt capacitors are used for reactive control. The southern terminus of the Ross-Snohomish microwave system is located here and may be inspected. The load dispatching for the entire BPA system is also conducted here, and the new dispatching board may be seen.

McNary Dam, (Tuesday air flights—and Friday). The Corps of Engineers, U. S. Army, has this large structure well under way.

Continued on page 5
Monday, August 20

10:30 a.m.—Opening Session
CHARLES B. CARPENTER, Presiding
Address of Welcome: Mayor Dorothy McCollough Lee, Portland, Oregon.
Response to Welcome: J. A. McDonald, Vice-President, Division No. 9.

2:00 p.m.—Power


2:00 p.m.—Industry

CP** The Pend Oreille Mines and Metal Company Conveyer System. N. H. Rayer, Pend Oreille Mines and Metal Co.
CP** Development in Variable Speed Pumping Units. T. R. Haynes, Cornell, Howland, Hayes and Merryfield, Consulting Engineers.
CP** The 450 Volt Delta System—Grounded or Ungrounded. C. B. Wagner, General Electric Co.

2:00 p.m.—Computing Devices and Methods

CP** Applications of a Mathematical Differential Analyzer to Electrical Engineering. Earl Johnson, Don Lefebvre, University of California at Los Angeles.

Tuesday, August 21

9:30 a.m.—Transmission


9:30 a.m.—Industry—Chemical, Electrochemical and Electrothermcal

CP** Electrical Installations in an Aluminum Plant. G. B. Schaefer, Kaiser Engineers, Inc.
CP** Cathodic Protection of Stainless Steel Buried in the Ground. F. J. Meller, J. F. Kane, General Electric Co.
CP** Economics of Cathodic Protection. R. M. Wainwright, University of Illinois.

9:30 a.m.—Aircraft Applications and Control Systems

31-227. Servomechanics Characteristics of D.C. Motor Driven by Controlled Rectifiers. L. D. Harris, University of Utah.
31-228. Transformation of Block Diagram Networks, T. D. Gray-ACO** Ideal, University of California.

9:30 a.m.—Communication

CP** The NI Carrier System. P. G. Edwards, Bell Telephone Labs, Inc.
CP** Communication Requirements for Civil Defense. B. J. Williams, General Electric Co.

9:30 a.m.—Instruments and Measurements

CP** A Fast Response Electronic Telemetering System. Carl Onan, Westinghouse Electric Corp.
CP** Overload Protection of Alternating Current Instruments. Wil- son Prichard, Elazar Tran, University of California.

2:00 p.m.—Transmission and Series Capacitors

31-309. Economic Aspects of Series Capacitors in High Voltage Transmission, E. C. Stark, Oregon State College; R. S. Sev-
31-310. 230 Kvs Series Capacitor Tests, C. G. Dinnick, E. J. Harring-ACO** ton, J. R. Curtin, Bonneville Power Administration.
31-311. Transmission-Line Terminal-Voltage Ratio for Best Econ-
31-312. Westinghouse Electric Corp. 2:00 p.m.—Student Technical Papers

Wednesday, August 22

1:30 p.m.—Transmission and Series Capacitors

31-311. Functional Requirements of Series Capacitors in Long Dis-
31-312. Nameplate Commercial Lines and a Description of Fundamental Features of the Installation in the Bonneville Power Ad-
31-313. Three Method of Operating Correct Line Drop Compensation on Single Phase Voltage Regulators Used in Three-
31-314. Two 24,000 KVAR Series Capacitor in a 230 KVA Transmission Line. E. R. Marlbury, F. D. Johnson, Westinghouse Elec-

9:30 a.m.—Communication

CP** The NI Carrier System. P. G. Edwards, Bell Telephone Labs, Inc.
CP** Communication Requirements for Civil Defense. B. J. Williams, General Electric Co.

9:30 a.m.—Instruments and Measurements

CP** A Fast Response Electronic Telemetering System. Carl Onan, Westinghouse Electric Corp.
CP** Overload Protection of Alternating Current Instruments. Wil- son Prichard, Elazar Tran, University of California.
2:00 p.m.—Electronic Power Converters

CP.** A Method of Load Control for an Aluminum Reduction Plant. L. H. Wolgast, Reynolds Metal Co.


CP.** A Discussion of Some of the Factors Involved in Ignitor Erosion. Waldo Porter, Aluminum Co. of America.


CP.** Ignitron Rectifier Locomotive. W. A. Brecht, Westinghouse Electric Corp.

2:00 p.m.—Student Technical Papers

Thursday, August 23

9:30 a.m.—Power

CP.** Electrical Features of Pacific Gas and Electric Company Contra Costa Steam Plant. Melvin Lewis, Bechtel Corp.

CP.** The Gadsby Steam Plant. E. M. Naughton, Utah Power and Light Co.

CP.** Operation of Steam Generating Station Auxiliaries at Sub-normal Speed. H. C. Austin, Southern California Edison Co.


9:30 a.m.—Carrier Current and Microwave

CP.** Carrier or Microwave for System Relaying. T. M. Morong, Salt River Power District, Arizona; K. V. Fletcher, General Electric Co.

CP.** Operating Experience of Supervisory and Telemetering over 960 Megacycle Link. T. A. Phillips, Central Arizona Light and Power Co.

CP.** Microwave System Design for Utilities. C. M. Backer, Philco Corp.

CP.** Application of a Microwave Radio Link by Bonneville Power Administration. S. Metzger, N. Gottfried, R. Hughes, Federal Telecommunications Labs., Inc.


9:30 a.m.—Electric Space Heating

CP.** Electric Space Heating Distribution Costs. O. D. Hurd, Benton County Public Utility District.

CP.** Heat Pump Operating Costs for the Equitable Building. J. D. Kroeker, Consulting Engineer.

2:00 p.m.—Switchgear


CP.** Heavy Duty High Voltage Dead Tank Circuit Breaker. D. M. Umphrey, Pacific Electric Mfg. Corp.

2:00 p.m.—Instruments and Measurements


2:00 p.m.—Conductor Vibration

CP.** Analysis of Conductor Vibration. R. H. Nau, University of Illinois.

CP.** An Analysis of Conductor Vibration Field Data. R. F. Steidel, Jr., Oregon State College; M. B. Elton, Bonneville Power Administration.


ACO.® Advance copies only available; not intended for publication in TRANSACTIONS.

CP.** Conference paper; no advance copies are available; not intended for publication in TRANSACTIONS.
Bonnieville Power Administration, Chehalis, Washington Substation (Tuesday—Thursday) all day. This station is located approximately 100 miles north of Portland and is the only installation of 230 kV series capacitors in America. There are also 23,000 kvar of 115 kV shunt capacitors, several high speed 230 kV 20 cycle reclosing oil circuit breakers, and several types of phase comparison carrier relays.

Equitable Building, Portland (Thursday 1:30 p.m.—5 p.m.). The nation's largest high-rise building is in the newly constructed 12-story Equitable Building. Completely air-conditioned, this aluminum clad double-glazed window building is an engineering and architectural showplace where heat or cold from the earth is electronically pumped into the building to maintain your personal comfort.

Pacific Power and Light Company's Yale and Merwin Hydro-electric Developments (Friday—all day). Private power in the northwest is a large contributor to the vast interconnected power pool. The Merwin project has an output of 112,500 kw from two generators while the Yale development which is under construction will add 108,000 kw from its two units by 1952. Attendance on this trip will be limited, reservations should be made as soon as possible following arrival.

Oregon State College, Corvallis, Oregon; U. S. Department of the Interior Bureau of Mines; and M and M Woodworking Company, Albany, Oregon (Friday—all day). All three shows concerted efforts to point out the many aspects of our hydro-electric developments.

The tour will be limited to 500 people, and reservations should be made as soon as possible following arrival.

Hotel Accommodations: Rooms have been set aside at the Multnomah Hotel and other hoteliers. Sleeping rooms at the headquarters hotel are limited, but sufficient space has been promised for AEE requirements. Early reservations will be advantageous and should be made through the hotel committee in accordance with the convention housing policy of the Portland Hotels. Advance registration should be made to Mr. C. B. Brown, Chairman, Hotel Committee, c/o Pacific Power and Light Company, Public Service Building, 920 S.W. 6th Avenue, Portland, Oregon. All requests should specify type of rooms wanted—number and names of persons, date and time of arrival, and date of departure.

Typical room rates are as follows—all with bath:

- Single room—not listed under Portland Hotels Housing Policy...
- Double rooms with double beds...
- Bedroom_and_bath...
- Deluxes doubles...
- One bedroom suite...

Room rates will be $5.00 for unexpected hotel reservations not made in advance of the convention.

PACIFIC GENERAL MEETING COMMITTEE: C. B. Carpenter, Chairman; M. M. Ewell, Vice-Chairman; A. R. Bierd, Secretary; F. W. McDonald, President-Elect; L. M. McDonald, Vice-President; F. C. Nelson, Treasurer; H. E. Amstutz, Chairman, Portland Session; W. E. Easie, Technical Program Chairman; J. T. Kincaid, Executive Secretary; R. W. Hopkins, Manager; F. C. Nelson, Treasurer; O. D. Rentfrow, Inspection Trips; M. E. Ewell, Exhibits Chair; W. C. Temple, Speaker; W. Porter, Speaker; M. M. Ewell, Ladies; R. R. Bercow, Publicist.

Included are:

- American Institute of Electrical Engineers
- 33 West 9th Street, New York 16, N. Y.
- Printed in U.S.A.