

AMERICAN INSTITUTE  
OF  
ELECTRICAL ENGINEERS



*Mt. Baker . . . in Mt. Baker National Forest*

PACIFIC COAST  
MEETING

OLYMPIC HOTEL  
SEATTLE, WASHINGTON

AUGUST 27-30

1946



## GENERAL INFORMATION

**Program**—This program contains a schedule of events for the Pacific Coast Meeting of the A.I.E.E. in Seattle, Washington, August 27-30, 1946. The headquarters of the meeting is at the Olympic Hotel and all technical sessions and the President's Reception and the Banquet, will be held there. A complete list of the technical sessions and papers, as well as entertainment events and inspection trips, is contained herein.

**Registration**—The registration desk is in the lobby of the Olympic Bowl opening 8:00 A.M. Tuesday, August 27th. Please register promptly upon arrival. Those members who have mailed Advance Registration Cards should confirm arrival at the registration desk and secure badges. A registration fee of \$2.00 will be charged all non-members except Enrolled Students and the immediate families of members.

**Tickets**—Tickets for the various events should be obtained at the registration desk promptly. The main events for which tickets should be obtained are as follows:

<i>Day</i>	<i>Time</i>	<i>Event</i>	<i>Charge</i>
Tuesday	8:00 P.M.	President's Reception	None
Wednesday	12:45 P.M.	Bremerton Navy Yard	\$1.04
Wednesday	12:30 P.M.	Bridge Luncheon (Ladies)	None
Wednesday	1:00 P.M.	Golf Tournament	3.00
Wednesday	7:45 P.M.	Theatre Party	1.25
Thursday	1:00 P.M.	Boat Rides (Ladies)	None
Thursday	7:00 P.M.	Banquet	4.00

**Technical Sessions**—The technical sessions will be held in the Olympic Bowl in the morning and afternoon of each of the four days from Tuesday to Friday inclusive. The subject of each session, the Presiding Officer and the subject and author of each paper to be presented are given in the following pages. Technical sessions and discussions are governed by the "Conduct of Technical Sessions" at the discretion of the chairman presiding. Usually 10 minutes will be allowed for the presentation of each paper and 5 minutes for each discussion. Preference will be given to those who have expressed, in advance, their intention to discuss papers. Names and affiliations should be clearly announced from the platform. To receive consideration for publication, discussions must be left with the chairman or sent to C. S. Rich, AIEE, 33 West 39th Street, New York 18, N. Y., by September 15. The original typewritten double spaced copy, complete with original illustrations, and two carbon copies with photostats or blue prints should be submitted.

**Papers**—Advance copies of technical papers may be purchased at the Registration Desk. Only numbered papers are available. The price of each paper is indicated after the listing under the technical program in the following pages.

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## SCHEDULE OF EVENTS

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### TUESDAY, AUG. 27

- 8:00 A. M. Registration
- 9:45 A. M. Opening Session.  
Technical Session — Atomic Power.
- 1:30 P. M. Ladies' Automobile Trip.
- 2:00 P. M. Technical Session — Central Stations.
- 8:00 P. M. President's Reception.

### WEDNESDAY, AUG. 28

- 9:00 A. M. Technical Session — Industrial and Railroad.
- 12:00 P. M. Student Conference Luncheon.
- 12:30 P. M. Ladies' Bridge Luncheon.
- 12:45 P. M. Inspection Trips — Bremerton Navy Yard.
- 1:00 P. M. Men's Golf Tournament.
- 2:30 P. M. Student Session — Student Papers.
- 7:45 P. M. Theatre Party.

### THURSDAY, AUG. 29

- 9:00 A. M. Technical Session — Aviation.
- 1:00 P. M. Ladies' Boat Ride.
- 2:00 P. M. Technical Session — Power Systems.
- 7:00 P. M. Banquet.

### FRIDAY, AUG. 30

- 9:00 A. M. General Session — Engineering Profession.
- 2:00 P. M. Technical Session — Communications.  
Closing Session.

# TECHNICAL PROGRAM

Tuesday, August 27

*Olympic Bowl*

9:45 A. M. ..... Opening Session

J. HELLENTHAL, *Presiding*

Address of Welcome..... Mayor William F. Devin  
Seattle, Washington

Response to Welcome..... Charles F. Terrell  
Vice President District No. 9  
American Institute of Electrical Engineers

J. Elmer Housley  
President, American Institute of Electrical Engineers

10:00 A. M. .... Atomic Power

C. F. TERRELL, *Presiding*

Address: "Development of Atomic Power"

Bruce R. Prentice, Gen. Elec. Co.

46-185. Columbia River Power. E. I. Pease, H. W. Good-  
ACO.† hue, U. S. Engr. Office, Seattle. 15 cents (by mail  
20 cents).

46-178. Power-System Development for Service to Han-  
ford Plutonium Plant. B. V. Hoard, J. R. Curtin,  
Bonneville Pr. Adm. 15 cents (by mail 20 cents).

2:00 P. M. .... Central Stations

THOMAS INGLEDOW, *Presiding*

46-184. Specific Engineering Problems in Rural Electrifica-  
tion and Electro-Agriculture. M. M. Samuels,  
Rural Elec. Adm. 25 cents (by mail 30 cents).

46-201. Hydroelectric Power-System Design. S. M. Den-  
ACO.† ton, U. S. Bureau of Reclamation, Denver. 20  
cents (by mail 25 cents).

46-191. Design Factors to Promote Reliability of Hydro-  
ASO.† electric Station Auxiliaries. C. L. Killgore, U. S.  
Bureau of Reclamation, Denver. 10 cents (by mail  
15 cents).

46-195. The Use of Business Machines in Determining the  
Distribution of Load and Reactive in Power-Line  
Networks. P. D. Jennings, C. E. Quinan, Puget  
Sound Pr. & Lt. 10 cents (by mail 15 cents).

46-177. 4,370,000-Kva Short-Circuit Tests on Grand Cou-  
lee 230-Kv Bus. W. H. Clagett, U. S. Bureau of  
Reclamation; W. M. Leeds, Westinghouse Elec.  
Corp. 15 cents (by mail 20 cents).

## Wednesday, August 28

### *Olympic Bowl*

#### 9:00 A. M. .... Industrial and Railroad

W. C. SMITH, *Presiding*

- 46-186. Comparisons of Railway Motive Power for Operation in the Pacific Northwest. T. M. C. Martin, Bonneville Pr. Adm. 25 cents (by mail 30 cents).
- 46-91. High-Voltage Ignitron Rectifiers and Inverters for Railway Service. J. L. Boyer, C. G. Hagensick, Westinghouse Elec. Corp. 25 cents (by mail 30 cents).
- CP.<sup>o</sup> A New D-C Control for Cargo Handling. S. Rifkin, W. R. Morton, General Elec. Co.
- 46-179. Fault-Current Measuring Device. M. J. Lantz, Bonneville Pr. Adm. 10 cents (by mail 15 cents).
- 46-187. Teaching Electricity and Magnetism. V. P. Hessler, Univ. of Kansas. 15 cents (by mail 20 cents).
- 46-194. Self-Excited Electromagnetic Drive for a Resonant Fatigue Machine. A. R. Willson, Boeing Aircraft Co. 10 cents (by mail 15 cents).

#### 2:30 P. M. .... Student Session

E. W. SCHILLING, *Presiding*

Carrier Current through Power Distribution Networks. V. Clayton, E. Jones, Univ. of Utah.

Railway Signalling, F. Curry, Univ. of Arizona.

Operation of an Electronically Controlled Direct-Current Motor. R. Angell, Univ. of Idaho.

Reconnection of an Induction Motor for Different Speeds. G. D. Cowles, Univ. of Southern Calif.

Electronic - Controlled Circuit Breaker. W. R. Aiken, Univ. of Calif.

## Thursday, August 29

### *Olympic Bowl*

9:00 A. M. Aviation

F. F. EVENSON, *Presiding*

Address: "Air Industrial Preparedness Planning",  
by Lt.-Col. Bert R. Kuss, U. S. Army Air Corps.

- 46-193. Effects of Thermal Characteristics of Aircraft Generators on Load Analysis. Stanley Rogers, Con. Vultee Aircraft Corp. 15 cents (by mail 20 cents).
- 46-190. Electrical Anti-Icing of Aircraft Windshields. J. D. McCrum, Douglas Aircraft Co., Inc. 15 cents (by mail 20 cents).
- 46-188. An Electronic Frequency Meter and Speed Regulator. Ellis Levin, Boeing Aircraft Co. 15 cents (by mail 20 cents).
- 46-197. One-Hundred Fifty-Thousand Horsepower Applied to Aeronautical Research. J. A. White, Nat'l. Advisory Comm. for Aeronautics. 10 cents (by mail 15 cents).
- 46-192. An Improved Azimuth Indicating System for Aircraft. E. E. Lynch, R. A. Pfuntner, Gen. Elec. Co. 15 cents (by mail 20 cents).
- 46-180. Control and Protection of Aircraft Direct-Current Power Systems. B. O. Austin, Westinghouse Elec. Corp. 10 cents (by mail 15 cents).

2:00 P. M. Power Systems

E. A. LOEW, *Presiding*

- 46-189. Dielectric Strength of Station and Line Insulation to Switching Surges. P. L. Bellaschi, L. B. Rademacher, Westinghouse Elec. Corp. 15 cents (by mail 20 cents).
- 46-182. Long-Distance Power Transmission — As Influenced by Excitation Systems. C. Concordia, S. B. Crary, F. J. Maginniss, General Elec. Co. 25 cents (by mail 30 cents).
- 46-181. An Oscillograph for Recording Transient Recovery voltages. W. G. Hoover, Stanford Univ. 15 cents (by mail 20 cents).
- 46-200. Sensitive Ground Relay Protection for Complex Distribution Circuits. L. F. Hunt, Southern Calif. Edison Co., Inc. 10 cents (by mail 15 cents).
- 46-196. Characteristics of a 400-Mile, 230-Kv Series — Capacitor Compensated Transmission System. B. V. Hoard, Bonneville Pr. Adm. 25 cents (by mail 30 cents).

Friday, August 30

*Olympic Bowl*

9:00 A. M. Discussion on the Organization of the Engineering Profession.

C. B. CARPENTER, *Presiding*

J. F. FAIRMAN, *Leading Discussion*

As has been done in other sections of the country, this session has been arranged to afford members in the Pacific Coast region an opportunity to participate in a discussion of the several projects under consideration by the Institute's Committee on Planning and Co-Ordination.

It is hoped that members who plan to attend will review and discuss among themselves in advance the information about the activities of the Committee on Planning and Co-ordination, which has been published in recent issues of ELECTRICAL ENGINEERING. In particular, a lively discussion from the floor is anticipated about the respective merits of the four plans of organization of the engineering profession, outlined in the progress report of the Professional Activities Subcommittee, which appeared in ELECTRICAL ENGINEERING, April, 1946, pages 169-73.

The views of a representative cross-section of the members in the Pacific Coast region about these important matters will be most helpful to the committee in its work.

2:00 P. M. Communications

F. O. McMILLAN, *Presiding*

- 46-198. Television — A Review of Present Status. E. W. ACO<sup>†</sup> Engstrom, R. D. Kell, RCA. 10 cents (by mail 15 cents).
- CP.\* Four-Tone Dual Channel Carrier Shift Telegraph System. F. J. Werthmann, Werthmann Radio Co.
- 46-183. Application of Compandors to Telephone Circuits. C. W. Carter, Jr., A. C. Dickieson, D. Mitchell, Bell Tel. Labs., Inc. 20 cents (by mail 25 cents).
- 46-199. Field Tests of Power-Line Carrier-Current Equipment. R. H. Miller, Pacific Gas & Elec. Co.; E. S. Prud'homme, General Elec. Co. 10 cents (by mail 15 cents).

ACO.<sup>†</sup> Advance copies only available. Not intended for publication in transactions.

CP.\* Conference paper. No advance copies available. Not intended for publication in transactions.



## ENTERTAINMENT

**President's Reception:** The President's reception will be held at 8:00 P.M. Tuesday, August 27, in the Junior Ballroom of the Olympic Hotel. This will be an informal affair, without dancing, and all are invited to attend.

**Banquet:** The Banquet will be held on Thursday, August 29, at 7:00 P.M. in the Spanish Ballroom of the Olympic Hotel. Vice President C. F. Terrell will be toastmaster and President J. E. Housley will speak. Dress will be informal and there will be a number of entertainment features. The golf tournament prizes and prizes for district papers will be presented at the close of the Banquet. Tickets for the Banquet are \$4.00 each and should be obtained at the Registration Desk as soon as possible.

**Theatre Party:** A theatre party for out of town guests has been arranged for the "Penthouse" at the University of Washington on Wednesday, August 28. The play is a comedy "Pomeroy's Past." Only a limited number of tickets are available which are for sale at the Registration Desk. Tickets including transportation to and from the theatre, leaving the hotel at 7:45 P.M., are \$1.25 each.

**Golf:** The golf tournament will be held at the Inglewood Golf and Country Club on Wednesday afternoon, August 28, starting at 1:00 P.M. The competition will be medal play on handicap and play will be in foursomes. The main prize for competition of AIEE members of the 8th and 9th districts and the Vancouver section will be the John B. Fiskin Cup. There will be prizes for low net, low gross, and Kickers handicap as well as some hidden prizes. Tickets for the tournament, including green fees and locker room, will be \$3.00. Transportation will be furnished to and from the Course. Luncheon and dinner may be secured at the club.

## LADIES' ENTERTAINMENT

**Automobile Tour:** A tour of the city has been arranged for the visiting ladies on Tuesday afternoon, August 27. This will include Lake Washington Boulevard, Volunteer Park, Seattle Art Museum and the University of Washington Campus. The drive will be followed by a tea at the home of Mrs. E. A. Loew, 5201 16th Avenue N. E. The automobile will leave the University Street entrance of the Olympic Hotel at 1:30 P.M.

**Bridge Luncheon:** A luncheon will be given at the Seattle Tennis Club on Wednesday afternoon, August 28. The luncheon will be for the visiting ladies and will be followed by bridge for those desiring. Transportation will be arranged for visiting ladies and will leave the University Street entrance of the Olympic Hotel at 12:30 P.M.

**Boat Cruise:** A boat cruise on Lake Washington has been arranged for visiting ladies Thursday afternoon, August 29. Transportation will leave the University Street entrance of the Olympic Hotel at 1:00 P.M. and will return the guests to the Hotel in ample time for the Banquet, Thursday evening.

## INSPECTION TRIPS

**Puget Sound Naval Shipyard:** The Puget Sound Naval Shipyard is located at Bremerton across Puget Sound from Seattle. This is one of the largest Navy Yards in the United States and is capable of dry-docking the largest battleships and aircraft carriers. Many fighting ships are now in the Yards and open to visitors. The various shops may also be visited by those interested in industrial engineering. One inspection trip only is planned to the Yards for Wednesday afternoon, August 28. The party will leave the Coleman Ferry Terminal at the

## INSPECTION TRIPS

foot of Marion Street at 12:45 P.M. The round trip Ferry Fare is \$1.04. Please make reservations at the Registration Desk.

**Seattle Naval Station:** The Seattle Naval Station is at Piers No. 90 and 91 on the Seattle waterfront. There are, at present, a large number of warships berthed at the station. These ships are in various stages of deactivation and comprise in part, the 19th fleet, an inactive fleet to be berthed in Pacific Northwest waters. Trips will be arranged at the convenience of the visitors. Please make arrangements at the Registration Desk.

**Boeing Aircraft Company:** The Boeing Aircraft Company Plant No. 2 is located in Seattle adjacent to Boeing Field, Seattle's Commercial Airport. This is the home of the famous B17 Flying Fortress and B29 Superfortress Army Bombers. This plant is now producing C97 Army Transports which are a postwar adoption of the B29 wing design. The Boeing plant also includes Allen Memorial Aeronautical Laboratories having a wind tunnel where a 16 bladed 24 foot fan, powered by 18,000 horse power motor, generates wind velocities approaching the speed of sound. Visitors may also observe the assembly work on planes under production. Trips will be arranged at the convenience of the visitors. Please make arrangements at the Registration Desk.

**POWER PLANTS:** Inspection trips will be arranged for those interested in Power Plants and Substations. Please make arrangements at the Registration Desk. Suggested points of interest are as follows:

Shuffleton Steam Plant of the Puget Sound Power and Light Company at Renton.

Covington Substation of the Bonneville Power Administration at Covington.

City Light Substations in Seattle. The new Street Railway rectifier substation of the City Light is in the City Light Building, Seattle.

Puget Sound Power and Light Company Substations. The power Company distribution system includes automatic substations and a 4 KV underground network.

**INDUSTRIAL PLANTS:** Inspection trips will be arranged to industrial plants in Seattle including Seattle Cedar Lumber Co. and Aircraft Plywood Co. Visits can also be arranged for those having transportation to lumber plants in Everett including Weyerhaeuser Mill B and the Sound View Pulp and Paper Co. Please make arrangements at the registration desk.

**OUT OF TOWN TRIPS:** The Registration Desk will be glad to furnish information on the location points of interest outside Seattle and the possible routes thereto. A few suggestions of places well worth visiting, particularly for those having automobiles, are as follows:

Mount Rainier National Park, near Tacoma, can be reached by car in about 3 hours from Seattle.

Mount Baker National Park, near the Canadian Border, can be reached by car in about 4 hours.

Grand Coulee Dam is on the Columbia River near Spokane and can be reached by car by those driving from Seattle to Eastern Washington.

Bonneville Dam is on the Columbia River near Portland and will be passed by those driving from Portland east up the Columbia River.

Vancouver can be reached by train or car from Seattle in about 5 hours. Vancouver can also be reached by boat, the round trip taking 2 days.

Victoria can be reached by boat from Seattle making the round trip in one day if desired. Victoria can also be reached by boat from Vancouver and from Anacortes which is midway between Seattle and Vancouver.

## OFFICERS OF AIEE 1946-1947

### President

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William E. Wickenden

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## PACIFIC COAST MEETING COMMITTEES

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# PACIFIC COAST MEETING COMMITTEES

## Program

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K. L. Howe	J. R. Tolmie
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T. A. Hansen	D. M. Umphrey
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## Transportation and Trips

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G. R. Hendrey	W. D. Whitney, Jr.
J. C. Hitt	

## Golf

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K. H. Ellerbeck	C. F. Terrell
J. W. Ferguson	T. S. Wood

## Student Activities

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A. V. Eastman

G. S. Smith

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R. E. Kistler, *Chairman*

M. T. Crawford	J. F. Pangborn
M. C. Falconer	E. M. Strange
C. M. Lubeke	

## Finance

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H. R. Brown	R. C. Hummel
A. J. DeLong	G. M. Palo

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Mrs. C. S. Alger, *Chairman*

Mrs. M. T. Crawford	Mrs. E. A. Loew
Mrs. C. H. Cutter	Mrs. A. L. Pollard
Mrs. A. V. Eastman	Mrs. G. E. Quinan
Mrs. E. B. Hansen	Mrs. L. B. Robinson
Mrs. J. Hellenthal	Mrs. C. F. Terrell
Mrs. C. R. Kingsbury	Mrs. Frank Walsh
Mrs. R. E. Kistler	Mrs. T. S. Wood

*Memorandum*

