



Pacific General Meeting

AUGUST 26-29, 1947

SAN DIEGO, CALIF.
San Diego Hotel



Present day lighthouse guarding the tip of Point Loma, which comprises the western arm protecting San Diego Bay.

MEETING FEATURES

ENTERTAINMENT: The president's reception and cocktail party will be held Tuesday, August 26, at 6:00 p.m. in the Continental Room, San Diego Hotel. Entertainment will be provided and the party will be without charge for all who are registered.

Wednesday noon there will be a luncheon in the Continental Room, and president Blake D. Hull will speak on, "Organization of an American Engineering Association."

A highlight of the meeting will be "A Night in Old Mexico," Wednesday, August 27. Transportation will be provided and will leave San Diego at 6:00 p.m. Dinner will be served at Serena's in Tijuana, after which guests have their choice of a program of dancing and entertainment, or greyhound races, or strolling among the cafes, shops, and streets of this Mexican town. No passport is needed to cross the border.

For Thursday noon there will be scheduled a two-hour boat ride around San Diego Bay, with picnic lunch served on board. Ladies are invited. Points of interest to be seen from the boat are the enormous Naval Air Station on North Island, the tuna fishing fleet, U. S. Fleet Sonar School, San Diego, Coronado, and Southwestern Yacht Clubs, the U. S. Coast Guard Air Base, Ballast Point and the Naval Fueling Station, kelp processing and salt plants, the Naval Training Center, Naval Amphibious Base, Marine Corps Base, the Naval Repair Base with its 300-vessel "mothball" fleet, submarines, destroyers and aircraft carriers at anchor, and the commercial waterfront of San Diego.

An informal banquet will be held Thursday evening in the Continental Room and the committee has been fortunate in obtaining for the occasion Dr. Albert W. Bellamy, professor of zoology at the University of California at Los Angeles, who will speak on "The Biological Significance of the Bikini Tests." During the banquet the golf and student paper prizes will be presented.

LADIES' ENTERTAINMENT: Several events are planned especially for the entertainment of the ladies registered at the meeting. Tuesday afternoon a smorgasbord style luncheon and bridge party will be held at Imig Manor. This establishment is built around a central courtyard and swimming pool, and the swimming facilities may be used.

Wednesday afternoon a sightseeing tour to La Jolla and Point Loma is planned. Points of interest to be seen will be Mt. Soledad, La

Jolla Cove and Caves, La Jolla Beach and Tennis Club, Scripps Institute of Oceanography, Mission Bay, Pacific Beach, Mission Beach, Ocean Beach, Naval Electronics Laboratory, Fort Rosecrans, and the incomparable view of San Diego, Coronado Islands, and San Diego Bay from the Old Spanish Lighthouse at Cabrillo National Monument, on the tip of Point Loma.

STUDENT ACTIVITIES: Nearly all of the thirteen colleges and universities in Districts 8 and 9 have indicated they expect to be represented in San Diego by staff members and student members. Two student sessions will be held and the titles of the papers are given in the program.

SIGHTSEEING AND MISCELLANEOUS: On Saturday for those interested a trip will be arranged to Palomar Observatory, site of the new 200-inch telescope of the Rockefeller Foundation. The extent to which visitors can be permitted inside the observatory building will depend upon progress of the installation of the 200-inch mirror, which is expected to occur about that time.

August is the height of deep-sea-fishing season off San Diego, when yellowtail, sea bass, barracuda, mackerel, and bonito abound. Members interested will be assisted in participating; if sufficient interest is shown, a boat will be chartered exclusively for AIEE people.

Registered visitors will be assisted and encouraged to plan a week with as full and varied entertainment as suits their tastes. Among the things available will be visits to San Diego Zoo, Balboa Park, Del Mar Race Track, surf bathing beaches, Pacific Coast League baseball, and Jai Alai games. The Actors' Company at La Jolla Playhouse, and Star Light Opera at Wegeforth Bowl will be giving performances every night during the week of the meeting. San Diego Fine Arts Society is exhibiting an ever-growing collection, and the Serra Museum in Presidio Park will be of interest, located on the spot where colonization of California began in 1769.

THE GOLF TOURNAMENT will be held Thursday afternoon, August 28, at the Chula Vista links of San Diego Country Club. A perpetual trophy, the John B. Fiske Cup, will be awarded for the best 18-hole medal round on handicap, and there will also be prizes for a kickers handicap and for best low net among registered nonmembers. Transportation to the country club will be arranged for those desiring it. (Continued on page 4)

Plan Your Vacation for the Dates of the Meeting and Stay Around as Long as You Can

PACIFIC GENERAL MEETING—PROGRAM—SAN DIEGO, CALIF., AUG. 26-29, 1947

ADVANCE COPIES OF PAPERS

Members may obtain preprints of technical papers by mail by remitting price indicated to the AIEE Order Department, 33 West 39th Street, New York 18, N. Y.; if purchased at AIEE Headquarters or at the meeting 5¢ less per copy. For convenience an order form is enclosed. Only numbered papers will be available in advance-copy form. 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.

Nonmember prices by mail 100% more than listed less 5¢ on each paper.

Please order by number and enclose remittance.

Tuesday, August 26

8:00 a.m.—Registration

9:30 a.m.—Opening General Meeting

President B. D. HULL, Presiding

Address: "Important Engineering and Economic Features of the Proposed Colorado River Developments." W. S. Peterson, Los Angeles Dept. of Water & Power.

12:00 m.—Luncheon Meeting

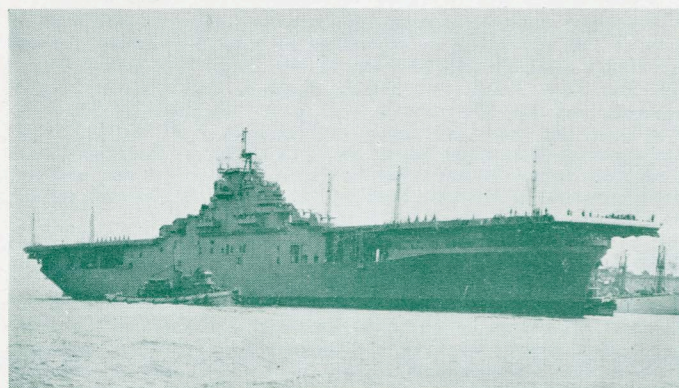
12:30 p.m.—Ladies' Luncheon and Bridge at Imig Manor

1:30 p.m.—Visit aboard Aircraft Carrier

2:00 p.m.—Selected Subjects

F. F. EVENSON, Presiding

- CP.* Energy-Dynamics of the Electromagnetic Field. R. H. Dishington, Bendix Aviation; B. G. King, Univ. of So. Calif.
- 47-201. An Electro-Optical Shutter for Photographic Purposes. A. M. Zarem, F. R. Marshall, F. L. Poole, U. S. Naval Ordnance Test Sta., Pasadena. 30 cents by mail.
- CP.* The Analysis of Retarded Control Systems. L. A. Pipes, Hughes Aircraft Co.
- CP.* A Derivative-Computing Servomechanism for Power System Governing. T. E. Curtis, Pacific Gas & Elec. Co.



USS Bunker Hill, typical of the Essex class aircraft carriers now based in San Diego Bay.

2:00 p.m.—Student Session

W. G. HOOVER, Presiding

- Protection of a D-C Shunt Motor upon Loss of Field Excitation. Francis Mezzatesta, Univ. of So. Calif.
- Acceleration Test of an Induction Motor. J. Drake, Calif. Institute of Tech.
- Design of a D-C Amplifier for an Electronic Computer. B. Lecanthe, Calif. Inst. of Tech.
- Abnormal Characteristics of the FG-87 Thyatron Tube. C. L. Johnston, Univ. of Idaho.

6:00 p.m.—President's Reception and Cocktail Party

Wednesday, August 27

9:30 a.m.—Aircraft Session

H. F. REMPT, Presiding

- 47-197. D-C Aircraft Generator Power Center. E. L. Bottemiller, General Elec. Co. 20 cents by mail.
- CP.* A New Approach to an Integrated Power Generating System for Aircraft. G. W. Almassy, General Elec. Co.
- 47-179. Automatic Temperature Control for Transport Airplanes. R. E. Hedges, Douglas Aircraft Co., Inc. 20 cents by mail.

9:30 a.m.—Leave for Trip to Solar Aircraft Co.

9:30 a.m.—Power Session

C. F. TERRELL, Presiding

- 47-203. A Simple and Inexpensive Method for Accurately Measuring Steady-State and Transient Voltages on High Voltages. H. L. Levinton, Bonneville Pr. Adm. 25 cents by mail.
- CP.* Conductor Vibration Studies on Energized 230-Kv Transmission Lines. M. G. Poland, M. B. Elton, Bonneville Pr. Adm.
- 47-184. The Design and Performance of the Vertical Generator Thrust Bearings at the Bonneville Plant of the Corps of Engineers, War Department. F. M. Lewis, U. S. Engrs., War Dept.; T. W. Gordon, General Elec. Co. 25 cents by mail.
- CP.* Electrolytic Cleaning of Rectifier Tanks. C. K. Ittner, Aluminum Co. of America.

12:00 m.—Luncheon Meeting

Speaker: Blake D. Hull, President of AIEE, on "Organization of an American Engineering Association."

1:30 p.m.—Ladies' Sightseeing Trip to La Jolla and Point Loma

2:30 p.m.—Leave for Trip to Silver Gate Station

2:30 p.m.—Aircraft Session

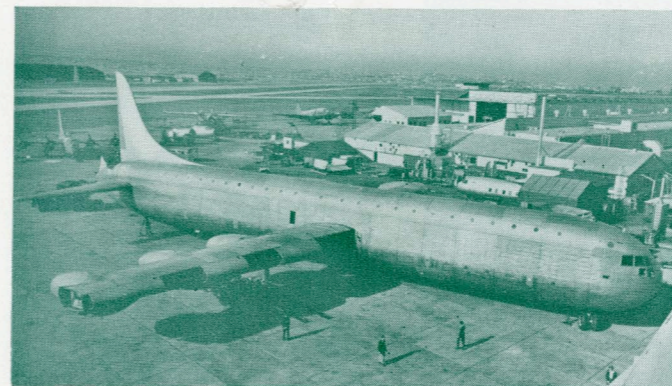
H. F. REMPT, Presiding

- CP.* Engineering Maintenance of Aircraft Electrical Systems. J. A. Aldrich, J. R. Grace, United Air Lines, Inc.
- CP.* Electrical Peroration of Landing Gear Wheels. J. H. Keyser, Jr., Lockheed Aircraft Corp.
- 47-176. Capacitance Fuel Gages. N. C. Clark, M. H. Adolphe, Lockheed Aircraft Corp. 25 cents by mail.

2:30 p.m.—Student Session

W. G. HOOVER, Presiding

Effects of Very High Temperatures on Transformer Core Loss. W. R. Singletary and J. H. Capps, Oregon State College.



This 265,000 pound giant is the XC-99, a cargo version sister ship of Consolidated Vultee's XB-36, largest airplane ever to fly. It is now nearing completion at Convair's San Diego plant.

Adaptation of a Military Amplidyne to Machine Laboratory Experiments. J. A. Scaroni, Univ. of Santa Clara.
Should Teachers Be Taught? DeForest L. Trautman, Jr., Stanford Univ.

6:00 p.m.—Leave for Tijuana, Mexico, or Jai Ali Game.

Thursday, August 28

9:30 a.m.—Communication—Electronics Session

D. I. CONE, Presiding

- CP.* Design Problems Encountered in Capacitor Stored Energy Spotwelding Equipment. J. C. Rapp, Lockheed Aircraft Corp.
- 47-198. Design and Application of Supersonic Flaw Detectors. D. C. Erdman, Triplett and Barton, Inc. 25 cents by mail.
- CP.* Random Phenomena and Signal-to-Noise Ratio. Simon Ramo, R. H. Delano, Hughes Aircraft Co.

9:30 a.m.—Industrial Session

W. C. SMITH, Presiding

- 47-202. Ground Power Supply for Modern Aircraft. T. B. Owen, J. A. Murray, Douglas Aircraft Co.; Allan Rosenstein, Lecturer in Engg., Univ. of Calif., and Consulting Engg., Industrial Electronics & Transformer Co. 30 cents by mail.
- 47-205. Electric Equipment Required in a Modern Six-Component Wind-Tunnel Model Suspension System. H. O. Cox, Bechtel Brothers McCone Co. 30 cents by mail.

11:30 a.m.—Leave for Boat Ride around San Diego Bay. Picnic luncheon served aboard—Ladies invited

2:00 p.m.—Start of Golf Tournament at San Diego Country Club

2:00 p.m.—Communication—Electronics Session

D. I. CONE, Presiding

- CP.* Design of Electronically Regulated D-C Power Supplies. D. C. Kalbfell, Kalbfell Laboratories.
- CP.* Some Observations on the Design and Maintenance of Low-Distortion Audio Systems. J. R. McGaughey, Navy Electronics Laboratory, San Diego.
- CP.* Intermodulation Testing (Student paper). R. M. Lee, H. L. Smith, Univ. of Utah.

2:00 p.m.—Industrial Session.

W. C. SMITH, Presiding

- 47-181. A New Grinding Circuit Feed Regulator. J. N. Jones, Westinghouse Elec. Corp. 20 cents by mail.
- CP.* Speed Control for Monorail Cranes. L. J. Rich, Lockheed Aircraft Corp.

CP.* Field Problems in Balancing Rotating Electrical Machinery. R. B. Barton, General Elec. Co.

47-186. General Analysis of Speed Regulators under Impact Loads. G. D. McCann, Calif. Inst. of Tech.; W. O. Osbon, H. S. Kirschbaum, Westinghouse Elec. Corp. 40 cents by mail.

7:00 p.m.—Banquet and Presentation of Prizes—Informal

Speaker: Dr. A. W. Bellamy on "Biological Significance of the Bikini Tests."

Friday, August 29

9:30 a.m.—Leave for Trip to Consolidated Vultee Plant

9:30 a.m.—Power Session

C. F. TERRELL, Presiding

- 47-185. Circuit-Breaker Current Measurements during Reignitions and Recovery. L. J. Lewis, Univ. of Washington. 25 cents by mail.
- CP.* Symposium on Distribution System Modernization. H. E. Jung, R. C. Blankenburg, So. Calif. Edison Co. Discussion by District Pr. Companies: California Elec. Pr. Co.; Burbank, Glendale, Pasadena, San Diego.

9:30 a.m.—Sonar Symposium

H. A. AFFEL, Presiding

- CP.* General Survey of Sonar Development. Captain Rawson Bennett, Navy Electronics Laboratory. Movie—"Underwater Sound."
- 47-195. Improving Sonar Accuracy with the Bearing Deviation Indicator. O. H. Schuck, Minneapolis-Honeywell Regulator Co.; C. K. Stedman, Boeing Aircraft Co.; J. L. Hathaway, National Broadcasting Co.; A. N. Butz, Jr. (deceased). 35 cents by mail.
- 47-182. Submarine Detection by Sonar. A. C. Keller, Bell Telephone Laboratories, Inc. 40 cents by mail.
- CP.* The Application of Sonar to Harbor Defense and Amphibious Landing. Elias Klein, T. F. Jones, Naval Research Laboratory.

2:00 p.m.—Power Session

R. W. SORENSEN, Presiding

- 47-199. Excitation Problems in Hydroelectric Generators Supplying Long Transmission Lines. C. L. Killgore, U. S. Bur. of Reclamation. 20 cents by mail.
- 47-175. Broken Conductor Effect of Sags in Suspension Spans. Alfio Bissiri, Maurice Landau, Dept. of Water & Pr., City of Los Angeles. 35 cents by mail.
- 47-180. Tests and Developments in Connection with Hot-Line Insulator Washing. G. Leslie Hill, Pacific Gas & Elec. Co. 40 cents by mail.

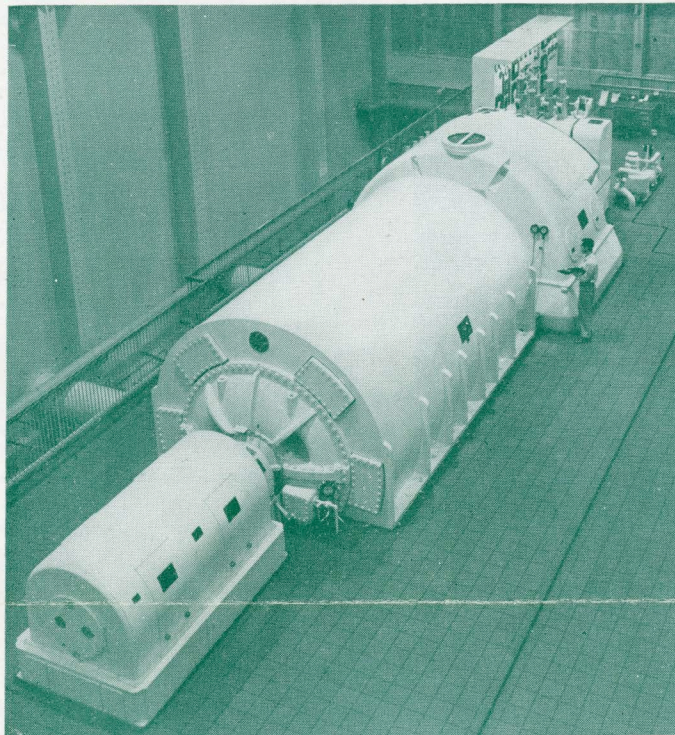
2:00 p.m.—Sonar Symposium

H. A. AFFEL, Presiding

- CP.* The Instrumentation and Techniques of a Sonar Calibration Station. Cecil Burbank, Navy Electronics Laboratory.
- CP.* Echo Repeater Practice Target System for Training Sonar Operators. D. G. Reid, W. L. Bryant, Navy Electronics Laboratory.

2:30 p.m.—Leave for Inspection Trip to Navy Electronics Laboratory, Point Loma, Calif.

CP.*: Conference paper; no advance copies are available; not intended for publication in TRANSACTIONS.



35,000 kw turbine generator at Silver Gate Station of San Diego Gas & Electric Co. This unit was installed in 1942; a new 50,000 kw machine is now being installed.

INSPECTION TRIPS

AIRCRAFT CARRIER: A 27,000-ton flattop of the Essex Class will be moored at Broadway Pier, just a short walk or bus ride from meeting headquarters, and the Navy has invited AIEE members and their guests aboard Tuesday afternoon. They will be given tours through the ship, permitting inspection of the hangar and repair facilities, armament, living accommodations of the crew, and several types of Navy aircraft, including jet propelled planes and a giant PB2Y-3 flying boat, which will be hoisted on board. There will be a demonstration of a jet-propelled plane in flight overhead. The Essex Class are large carriers, many of which, including the famous Franklin and Bunker Hill, saw action in the last war. They displace 33,000 tons when fully loaded, are 856 feet long, carry 150,000 hp of propulsion machinery and a complement of over 2500 men.

SOLAR AIRCRAFT COMPANY: For members interested in resistance welding of stainless steel products, an inspection trip has been arranged to visit the San Diego plant of Solar, largest manufacturers in the world of aircraft exhaust manifolds. Some of the other products are high temperature parts for gas turbines, stainless steel caskets, dairy equipment, and cooling tower fan blades. This trip is limited to 25, and those desiring to go are cautioned to register well in advance.

SILVER GATE STATION is the newest generating station of the San Diego Gas and Electric Company, and is laid out for an ultimate installation of four turbine-generators. It now has one 35,000-kw machine, placed in service in January 1943, which is served steam at 850 psi and 900F. Unit No. 2, of 50,000-kw rating, and its accessories are now being erected.

CONSOLIDATED VULTEE AIRCRAFT CORPORATION'S main plant is located in San Diego and was the birthplace of such famed wartime planes as the B-24 Liberator, the PBV Catalina, the PB2Y Coronado, and the B-32 Dominator. AIEE members and guests will be given an extended tour of the nonrestricted areas of the plant, including the XC-99, largest transport plane in the world, now nearing completion; the mockup area, the new wind tunnel, and the production line of the Convair 240, new 40-passenger airliner of which over 100 are on order by domestic and foreign airlines.

U. S. NAVY ELECTRONICS LABORATORY, located on Point Loma, is an organization of civilian scientists and engineers, aided by naval officers and men, working on the design, procurement, testing, installation, and maintenance of fleet electronic equipment. Among the items included in the inspection tour will be the antenna model range on a "simulated ocean," where radiation patterns are taken from proportionate ship models, a sonar operator's training device, light-weight radar in operation, and displays showing special crystal transducers and sonar detection and ranging principles.

HOTELS

Those who will attend the meeting should make reservations by writing directly to the hotel preferred. Although arrangements have been made for sufficient blocks of rooms for the number expected to attend they will be held until meeting time only, if specifically reserved by those who will occupy them, and travel to San Diego in August is particularly heavy because of the concurrent race meeting at Del Mar Turf Club. Approximate Hotel Rates are as follows:

Hotel	Single Bed	Double Bed	Rooms with Twin Beds	Suite or Cottage
San Diego	.....	\$2.50- 5.00	\$5.00- 8.00	\$5.00- 8.00
Botsford	\$2.50- 5.00	2.50- 5.00	2.50- 5.00	.....
Del Coronado*	8.00-12.00	.....	over 12.00	.....
El Cortez	5.00- 8.00	8.00-12.00	8.00-12.00	.....
U. S. Grant	.....	5.00- 8.00	5.00- 8.00	.....
Holland	.....	2.50- 5.00	.....	.....
Imig Manor	.....	.....	.....	over 12.00
Knickerbocker	.....	2.50- 5.00	2.50- 5.00	.....
New Palace	.....	2.50- 5.00	5.00- 8.00	.....
New Plaza	.....	2.50- 5.00	2.50- 5.00	.....
Pickwick	.....	2.50- 5.00	5.00- 8.00	.....

*American Plan.

Advance Registration: Those who will attend the meeting should register in advance by filling in and mailing the Advance Registration Card promptly. This will greatly assist the committees who are making arrangements. A registration fee of \$2.00 will be charged nonmembers except Enrolled Students and the immediate families of members.

H. H. HENLINE, *Secretary*

COMMITTEES

General Committee: J. F. Sinnott, Chairman; B. B. Gravitt, Vice-Chairman; W. J. Kenline, Secretary; R. T. Strong, Treasurer; W. M. Allen, F. J. Bartholomew, I. W. Best, D. I. Cone, A. V. Eastman, F. F. Evenson, J. R. Jarvis, C. F. McCabe, E. W. Morris, D. H. Olney, W. L. Smith, C. F. Terrell, A. Tilles, W. J. Warren, E. W. Williams. **Subcommittee Chairmen:** C. J. Breitwieser, Technical; J. P. Connor, Hotel and Registration; O. L. Doolittle, Arrangements; I. E. McDougal, Entertainment; H. A. Cordes, Finance; W. F. Schott, Student Activities; P. M. Klauber, Publicity; C. J. Nevitt, Golf; E. H. Templeton, Transportation and Inspection Trips; Mrs. H. A. Cordes, Ladies.

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