

Minutes (continued)

this year the fine year that it has been and turned the gavel over to the incoming President Larry Shea. Larry in turn, on behalf of the Chapter, thanked Arel for all his fine efforts and presented him with the Past President's Certificate of Appreciation and a Past President's pin.

After a short recess, Shea introduced Mr. Tom Simonson of G.M. and T.R. Simonson, Consulting Engineers in San Francisco, who spoke to the Chapter regarding the mechanical installations on the Hong Kong Bank Building, where the Engineers' Club is located.

Tom stated that the 17 story building contained 132,000 square feet of space with approximately 5,000 square feet of net rentable space on each floor. It was built for a total cost of \$34 per square foot with the HVAC and Plumbing costing \$5.12 per square foot and Electrical \$2.70 per square foot. These figures were costs for a finished open area and did not include the extra costs involved in finishing the Club at the top of the building or other special tenant improvements required on the typical floors.

The air conditioning system is a single duct reheat system with 1 CFM/sq. ft. air supply to all interior spaces, 1½ CFM/sq. ft. for north exterior exposures, and 3 CFM/sq. ft. for east and west exterior exposures. Air is supplied and returned in the interior areas through the light fixtures and is supplied on the exterior through diffusers over the windows. Return at the perimeter is through the light fixtures and low through slots adjacent to each window. The ceiling was utilized for a return air plenum and to house ducts and reheat coils at each of the perimeter window areas. Total air supply was approximately 140,000 CFM at 3¼" S.P. with duct shaft velocities of 3,000 feet per minute and main duct velocities on the floors of 1,800 feet per minute.

Chilled water is supplied from two 225 ton chillers located in the upper floor mechanical room and hot water from convectors utilizing P.G. & E. central steam.

After the description of the building and its systems the meeting was adjourned and tours conducted throughout the building for all those interested.

The Codes & Legislative Committee, members of the Golden Gate Chapter:

Clyde Bentley, Millar Clarke, Dick Fujioka, Carl Jordan, Gerald Kasin, and, hopefully, John Linford envision a plush lobby in Sacramento and unlimited expense accounts. Unfortunately, it 'ain't gonna' be this way. Mr. Robert Levy, Superintendent of the San Francisco Bureau of Building Inspection, will address our November meeting, according to G. Robert Voelz, whereupon Mr. Levy may request the Chapter to participate in discussions on San Francisco Code Revisions.

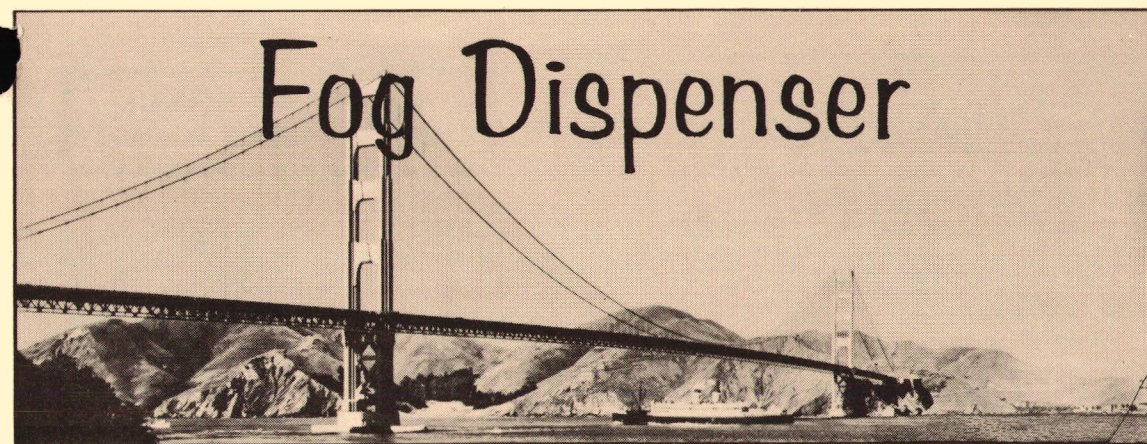
"Each Committeeman has been asked to develop his own philosophy on building codes. This philosophy may vary from the true professional's belief that codes other than ethics are not required to the material man that wants his 'watzzits' mentioned in alternate paragraphs. This range of attitudes is not limited to Committeemen but should be part of every active Chapterman."

An aging fellow, who had been a widower for a good many years, met and fell in love with a very young and pretty Woman. He decided to marry her—which was also agreeable to the apple of his eye.

However, the old gent's grown son had a bit of advice. "Dad," he said, "you haven't much further to travel, while this young woman has a long way. Hadn't you better check with your doctor as to your heir condition?"

Dad thought it a good idea.

Next day he made it a point to see his son. "Well, young feller, the doc said I was very healthy for a man my age. But him being smarter than me, he used some newfangled words that I don't understand. How many times a week is semi-annual?"



GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVII No. 1

OCTOBER 1967

PROGRAM CHAIRMAN: LEWIS POLLOCK

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB, HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STREETS, San Francisco on October 5, 1967. Social hour will be at 5:30 P.M., dinner at 6:30 P.M.

RESPONSIBILITIES FOR SYSTEM STARTUP

The topic for the October meeting will concern itself with what a mechanical contractor, equipment supplier, engineer and temperature control manufacturer consider to be their responsibilities for putting a large mechanical system into operation and keeping it going.

Some of the items which will be touched upon and hopefully resolved include "Who is responsible for readjustment of air quantities to satisfy specific non standard tenant requirements — Who is responsible for providing electrical interlock information on complicated systems and — Who is best suited to give detailed operating instructions on individual pieces of equipment and overall system operation?"

The panel that will review this topic will include Robert Linford, Chief Engineer of Linford Air and Refrigeration Company; Garden Michelson, Sales Engineer for Carrier Corporation; Thomas Simonson, Mechanical Engineer and Partner G.M. & T.R. Simonson Consulting Engineers; and Thomas Gilbertson, Sales Engineer for Johnson Service Company.

HONOR ROLL

CHARLES M. BAILEY COMPANY, INC.

(New address and phone number)

1301 - 59th Street

Emeryville, California 94608

Phone 658-9444

Published monthly by the Golden Gate Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1371 - 15th Avenue, San Francisco, California 94122. LO 6-2740.

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NEW FIRE CODE PAMPHLET

New pamphlet No. 90A - adopted May 1967 is now available from the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass. 02110. Cost per copy is 60¢.

Extensive revisions have been made in the code covering air conditioning and ventilating.

The office of PAUL E. ROSENTHAL, consulting mechanical engineer, has moved to new and larger quarters located at 552 Mission Street, San Francisco, California 94105, Phone 391-2410.

MAIL OR PHONE NEWS TO:

Editor, Fog Dispenser
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1485 Baysshore Blvd.
San Francisco, California
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President's Corner

Larry Shea

Howdy! Welcome back after a summer of rest (?) Hooray. We start our new year of chapter activities. This is the year of the GOYD.

We face some exciting challenges this year that will, if met, bring about fundamental changes of chapter structure, modus operandi, and we hope results.

One of the first changes we hope to implement will be streamlining business meetings. In the future, each committeeman will submit his report in writing long prior to the meeting to the president. If a committee has nothing of substance to report, we won't waste members time at the meeting telling them this. Only if it's an important item that requires member action, will it be introduced at the meeting.

We invite members who have articles, technical papers, gripes to contribute, to forward them either to the president or appropriate committee chairmen (a list to be published next month) for handling.

Our areas of action or concern next year are many and varied. Manpower resources is one of our major concerns. For years, I, like everyone else, I'm sure have been asked by engineers, contractors, manufacturers and suppliers if I knew any "good men" they could hire. Of course, the good men are already working, and we don't have (nor want) a supply of any other kind. Competition for above average men is fierce between all industries, and ours suffers from lack of glamour, money, and government subsidy. Despite these odds, we must seek and find ways to interest young men to enter engineering or technical courses, in order to satisfy our industry's present and future needs. If you have looked for a good man in the last 5 years, then worry about it enough as an industry problem to GOYD. Send me your ideas and offers of assistance, or contact Roger Chesbro and tell him you're worried!

Another challenge this year is our undertaking of assisting city (of S.F.) officials to make a complete revision of that portion of the building code that affects our industry. Millar Clarke is chairman, and has done a commendable job and is recruiting a blue ribbon panel to work on this project. He's succeeded in getting new members and some old timers to become active on this activity.

Grippers! We welcome you! Arise! Write! We're going to DO something! Every segment of our group suffers miseries of some sort, and there are practices in our industry that permit inequities to exist by default. We can't solve all the world's problems, but we're going to make a stab at solving some in our own backyard. Our technical pre-meeting workshops will be aimed at exploring problem

areas in our business, such as the efficacy of grandfather clauses in displacement of responsibility, or how to avoid playing hot potatoe, daisy chain, or musical chairs. At jobsites these meetings will be chaired by Gene De Wree. As a further step, Leo Dwyer, chairman of our Standards committee, will make an effort to determine a just recommendation to be followed voluntarily by participants in contention. These standards will be published as a guide on how to handle problems. Cynics of course will say it won't work. But most decent people will want it to work. Who wants to be a bad guy? Unethical people we don't want. Do we? You're kidding!

George Yamas is going to do a fine job, we know as Joint-Industry chairman. Why do we need one of those? Because we have many segments of our industry that are interrelated and often function along parallel lines in trying to solve similar problems -- or sometime the same problems. Our problem solving technical-standards committees certainly will rub shoulders with 4 separate contractor groups. Our concern with qualified manpower crosses the path of union and contractor association areas. Our educational efforts coincide with the functions of the S.F. Bay Area Engineering Council. We do not live in a vacuum. We must interest active participation in our chapter by these peripheral organizations and hopefully we can solve problems jointly and learn from them. Maybe even get contributions, would you believe?

Our research fund activity is almost non-existent and we need go-getters to help refine those areas of engineering data where we still, to a degree, fly by the seat of our pants. More on this later.

Seminars anyone? It looks like we opened a can of worms. We now have requests for many seminars. A monthly program on design or installation problems and how to solve them. An all day seminar on system design and their economic evaluation - on total energy systems, etc., etc.

Later in the year we'll ask you more about this, but if you have any pre-conceived ideas tell them to Dick Charles soon - and offer your assistance.

Ye gads. If you've read this far, let me remind you to get your chapter dues in before our bargain basement price is withdrawn. If you're a national member who's not been an active member in the past, man, you'd better get with it. We're a going group, and after a couple of months, when you hear all of the things we're doing, you're going to want to join! Then you'll be sorry, because all of the committees will be all filled up by 300 frenzied members running around working like mad, and you'll have to wait your chance to do committee work till next year. Be a GOYD. Now! For information ask for Bob Tuck - by name.

Come on out everyone. We'll be looking for you.

MINUTES - MAY 1967

The meeting held at the Engineers' Club was called to order by President Berrier at 7:45 p.m. Members and guests were introduced.

Under old business, the minutes of the April 13 were approved as published in the Fog Dispenser. Don Locke announced the June Social at Peacock Gap Country Club on June 10, 1967. Tickets were \$19.00 per couple. Bill Baker reported that we had \$1,408.90 in our Cal Poly Workshop Fund account. To date this year, we have received \$935 from 62 contributors. All others who have not as yet sent in their contributions, but intend to do so, were urged to get their checks in quickly.

Under new business Karl Guttman announced that while using the ASHRAE Guide for solar factors, he noted that some substantial increases have occurred in the solar factors and no specific mention of the changes noted. This could cause considerable difficulty in consulting offices where both new and old Guides are often used. President Berrier requested that Karl write the Guide and Data Committee to obtain clarification for the Chapter on this matter.

President Berrier announced the existence of a new set of safety orders for boilers in California and offered to arrange a meeting for all interested individuals to review the new requirements in detail.

Bob Phillips introduced John Halleck from San Francisco City College Air Conditioning Department who was in attendance with four of his students. Mr. Halleck indicated that he would be glad to furnish any interested members with the names of air conditioning students who were available for part time or summer employment.

Dick Friedman introduced Rod Keith from Cal Poly who informed the Chapter about our Workshop at Cal Poly. There are currently five boys from the Bay Area participating in the program. Funds are being spent at the rate of \$115 per month for air conditioning work and study performed by the students on an hourly rate of pay. Our funds have been greatly appreciated and have helped many of the students earn part of their way through school. Next fall Cal Poly expects to have 135 students enrolled in the air conditioning department.

President Berrier thanked the entire Chapter for all of its efforts towards making

Minutes (continued)

factory. Engineers should then work with the contractor to solve the problem. Linford felt that the air balance should be by the Engineer.

Next Tom Gilbertson of Johnson Service spoke of startup responsibilities from the Control Contractor's standpoint. Tom felt startup was particularly important since it is the first meeting with the public. A written description of the system operations which used to be a standard item seems to have disappeared. Gilbertson felt it would be an excellent idea for this to be reinstated. Who should write the description? Gilbertson felt that it belongs in the mechanical specifications to be done by the control contractor. Interlock wiring remains a problem. Who is responsible besides the person who actually does the wiring? Gilbertson felt there should be a mechanical, electrical combination sheet as part of both the electrical and mechanical sets.

Don McLeod of Simpson, Stratta's office ably substituted for Tom Simonson and spoke from the Consulting Engineer's standpoint. He first noted three prime points of responsibility: 1. The suppliers obligation to the contractor; 2. The Contractor's obligation to the contract; 3. The Engineer's obligation to the owner. Don felt that final inspection should be made when everything is running but not before. All interested parties should be present at the final inspection, namely, electrical contractor, mechanical contractor, control man, consulting engineer and major equipment suppliers, et al. The General Contractor should pay for the engineer's time if the job is not ready. McLeod feels that the engineer should write the manual of operations. This should be a concise, clear document which makes sense to the user and not just a duplication of the equipment manuals.

A lively question and answer period followed and the meeting adjourned at 10:15 P.M.



Add Newspaper Boners

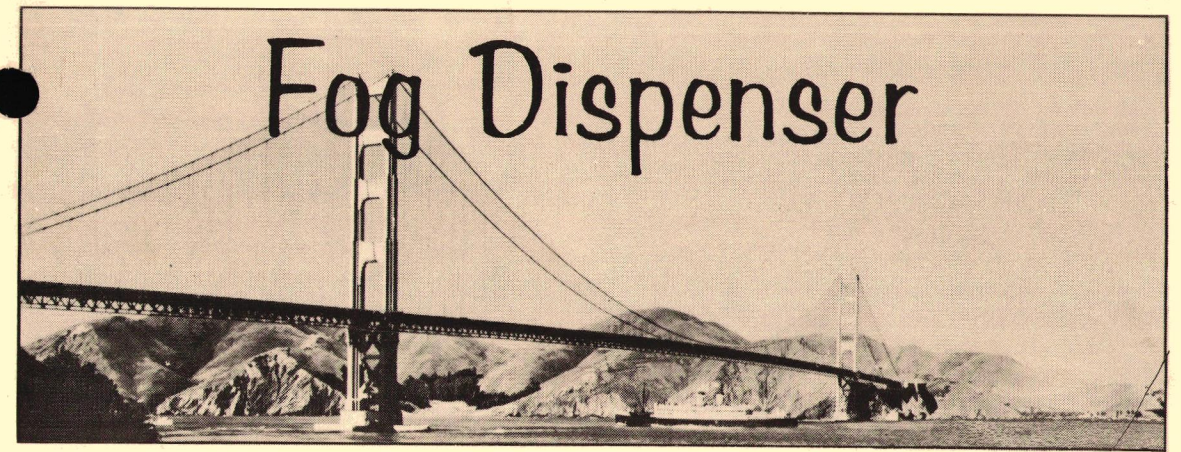
Union members carried signs saying "Don't Be a Salve."—*Los Angeles (Calif.) Herald-Examiner.*

An alarm clock has been hooked up to the jittery nervous system of Mt. Etna.—*Detroit News.*

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GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVII No. 2

NOVEMBER 1967

PROGRAM CHAIRMAN: BOB YOELZ

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB, HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STREETS, San Francisco on November 2, 1967. Social hour will be at 5:30 P.M., dinner at 6:45 P.M.

HEATING & VENTILATING PORTION OF THE SAN FRANCISCO BUILDING CODE

Mr. Robert C. Levy, Superintendent, and Mr. Alfred Goldberg, Assistant Superintendent, of the Bureau of Building Inspection, Department of Public Works for the City and County of San Francisco will be our speakers for the November meeting. They will review various portions of the heating and ventilation section of the Building Code that they feel may require some revision when the new code is written. They would also like some input from our group as to revisions that we feel should be considered.

Be sure and review Section 38 of the Building Code once again before the meeting and come prepared to offer GOOD CONSTRUCTIVE SUGGESTIONS. Who knows, some of them could become part of next year's code.



NOVEMBER WORKSHOP

Chairman - Gene DeWree

The November Workshop topic is "Utility Connections & Fees". This is your last opportunity to voice an opinion on this subject before our proposed standards are presented to the Golden Gate Chapter Standards Committee.

Panel members will be: Leo Dwyer, Ralston & Dwyer, representing the consulting engineer; Bob McDonald, R.F. MacDonald Company, representing the vendor; Bob Mills, University Mechanical, representing the contractor; Jack Ross, Pacific Gas & Electric Company, representing the utility; and a mystery man from the Pacific Telephone Company.

The session will start promptly at 5:30 P.M.

HONOR ROLL

ROBERTSHAW CONTROLS COMPANY

967 Howard Street . San Francisco, California 94103 . Phone 392-6947

Published monthly by the Golden Gate Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1371 - 15th Avenue, San Francisco, California 94122. LO 6-2740.

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President's Corner

Larry Shea

Dues are due. As of our next meeting (Nov.) our summer special of \$9.75 is withdrawn and thereafter the dues are \$10.50. In addition, the Roster Committee will get to work (right, Al?). Listings for the current year will be closed as of Dec. 1st for an early printing. If you want your name listed in our private industry telephone directory, then take pen and checkbook in hand NOW.

Enclosed is an organizational chart of our chapter and its activities. You'll note its been decentralized and the members of the Board listed at the top of each group of committees is the control point for that group. Information pertaining to that committees function should be routed through that Board member, or the committee chairman involved. It has been reproduced in special size so that it may be stapled to your current copy or future copy of the Roster for ease of reference. We could still use a few hands for some committees, and if your sense of social responsibility prompts you to volunteer, then contact the appropriate Board member NOW. Be a GOYD.

At the next meeting there will be a blackboard near the elevator lobby at the club with columns on it, stating YOU OWE ME---FOG DISP., MEMBERSHIP APPLICATION or BADGE. To help clear up the confusion and break the bottle neck, would those of you with these complaints please list your names before the evening is over?

This past month both Roger Chesebro and Tom Simonson have addressed about 250 students at City College in Engineering Orientation talks. Response, we understand, has been excellent. More speakers are needed. Volunteer, anyone?

New legislation has been proposed by Rep. Ruess (Wis.) Bill #12142 whose ultimate effect would be the establishment of a Federal Building Code enforced by HUD. Compliance by states and municipalities would be voluntary, except, we understand, those who do not comply, will not be entitled to Federal funds for construction of various types. It could be a boon or an evil depending upon what it says and your particular philosophies, but we call it to your attention so that you may inquire and make up your own minds on same.

We note that the Sept. issue of the ASHRAE Journal has an article regarding the change in solar load calculations between the '66 and '67 Guides. Did you notice it Karl and etc?

We have good committees functioning with dedicated members. In all almost 50 men of the local chapter are active. Again, to the other 250 who only belong, we ask---be a GOYD.

MINUTES - OCTOBER MEETING

The meeting was held at the Engineer's Club and was called to order by President Shea at 7:35 P.M. Members and guests were introduced.

Pete Knezevich was asked to make a note that John Rudy is the new Attendance Committee Chairman.

Richard Gee asked what "GOYD" meant in the Fog Dispenser. President Shea replied "Get off your Duff".

The minutes were approved as published in the Fog Dispenser.

President Shea made a plea for Student Memberships at \$5.00 each. This is a real bargain for those students interested in our field.

Larry Shea noted that Roger Chesebro had spoken to a group of students at City College, San Francisco. We are in need of other volunteers for the Speakers Bureau to tell the ASHRAE story.

Gene DeWree announced that the first Workshop of the year will be held prior to our next meeting at 5:30 on November 2nd. The subject will be "Utility Connections and Fees". The panel for the Workshop will be: Robert MacDonald of R. F. MacDonald; Leo Dwyer of Ralston & Dwyer and Robert Mills of United Mechanical.

The Auditors report was given by Bill Barron. net worth of the Chapter as of June 30, 1967 was \$1748.18. This represented an increase in net worth of \$76.06 over the previous year. Assets consisted of a bank balance of \$48.80 in the Commercial Account and \$1639.56 in the Savings Account and Accounts Receivable of \$1076.17. Liabilities consisted entirely of Accounts Payable in the amount of \$1016.35. The Accounts Receivable and Payable represented income not yet received and bills not yet paid for the Christmas Dance. These amounts have subsequently been received and the bills paid. The annual dance resulted in a loss of approximately \$250.00 and \$300.00 was donated to the Engineer's Club last year.

President Shea noted that there was a bill before congress to have HUD Housing and Urban Development Commission set up a standard building code for buildings with federal funds. A brief discussion ensued as to the pros and cons of such a move.

President Shea noted that Rod Kirkwood our former Region 10 Director and Professor Hutchinson of the University of California had been elected as Fellows of the Society, an advancement well deserved by both.

Our present Region 10 Director, Val Burke, was in attendance and spoke to the group. He complimented the Chapter Officers for the good job they have done and suggested that we all read page 50 and 51 of the current issue of the ASHRAE Journal on membership, and President Vinthers

article on page 45. In his view manpower remains the industry's outstanding problem.

President Shea presented a new member, Mr. Chun Ying Yu with his badge.

Vice President Voelz solicited ideas for subjects for future meetings this year. He previewed next month's meeting at which San Francisco's Chief Inspector, Mr. Levy, will speak on the proposed new San Francisco Code.

Lew Pollock, Program Chairman, introduced the panel subject for the evening, "Responsibilities for System Startup". In his introductory remarks Pollock stressed the hope that this would be a constructive meeting. It is hoped that the Standard's Committee might come up with an outline specification as a result of meetings such as this which would clearly define responsibilities from each interested participant's viewpoint including the owner.

The first speaker on the panel was Gordon Mikelson of the Carrier Corporation who spoke on the subject "From the large equipment manufacturer's prospective". He noted the value of pre-qualifying contractors or clearly spelling out responsibility in the specifications by the Engineer. From experience at bid time the equipment supplier knows he may have to help certain contractors more than others. He felt the trend should be away from equipment supplier actually supervising installation and startup. Manufacturers service should be made available on a cost basis to the contractor in addition to the equipment cost quoted. Good contractors will benefit by this approach. Warranty obligations should be consistent with the specification. Manufacturer prefers one year from the first beneficial use or eighteen months from shipment. Contractor therefore, may have to cover equipment warranty on long term construction job. On a major equipment failure most reputable manufacturers will be interested in seeing to it that corrections are made immediately. Costs must be reckoned by contractor at bid time.

Bob Linford of Linford Air and Refrigeration spoke on the subject from the contractors viewpoint. He felt that the contractor should be responsible for the installation of all material and labor in accordance with the specifications but not responsible for the design. It is important that a contractor not take on a job when not qualified. He must see that the equipment runs in accordance with the plans and specifications and find out where the responsibilities lie, if the system does not perform properly. At what point does the contractor call in the consultant? When everything is operating according to the design and after thoroughly checking, performance is still not satis-

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 Gerry Yaffe
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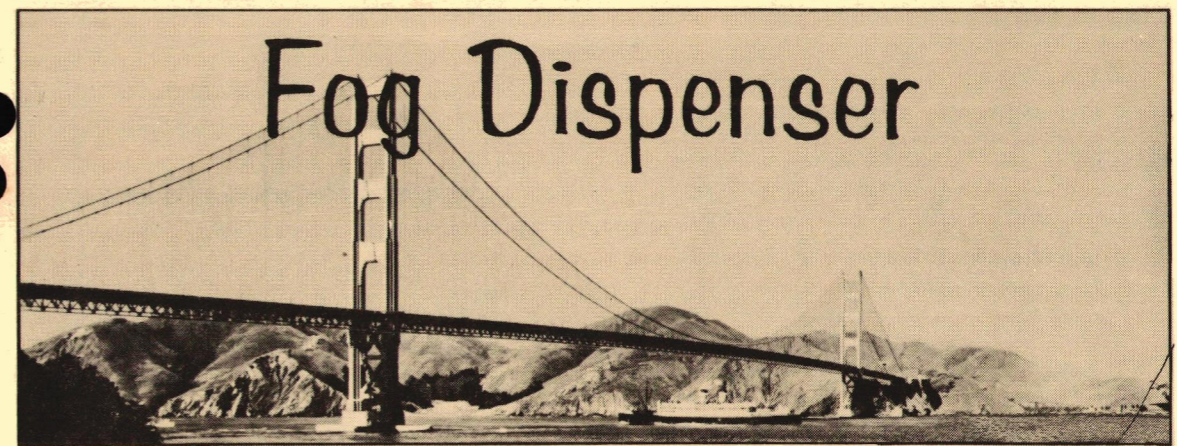
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GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVII No. 3

DECEMBER 1967

PROGRAM CHAIRMAN: BOB VOELZ

The next Golden Gate Chapter meeting will be held at the ENGINEERS' CLUB, HONG KONG BANK BUILDING, corner of SANSOME AND PINE STREETS, San Francisco on December 7, 1967. Social hour will be at 5:30 P.M. and dinner at 6:30 P.M.

DETAILED SHOP DRAWING SUBMITTALS - NEEDED OR NOT???

PROGRAM CHAIRMAN - ROBERT VOELZ

How many times have you as an Engineer, Contractor or Supplier asked yourself whether shop drawings are really necessary? On the surface, they appear to cost us all a lot of money to prepare and process them. Would a Contractor or supplier prepare them for his own use if they weren't specified and does the Engineer actually check the submittals that come in or just stamp them "Approved Subject to All Contract Requirements"?

A panel consisting of Mak Takahashi, Head of the Heating and Air Conditioning Section of Skidmore, Owings & Merrill; J. Fletcher Jones, Project Engineer with James A. Nelson Company; and Robert W. Castner, District Manager of York-Recold will express their ideas on these questions as representative of the opinions of the Engineer, Contractor and Supplier. Be sure to attend and bring along your own ideas on the subject.

DECEMBER WORKSHOP

CHAIRMAN - GENE DeWREE

The December Workshop topic is "How to Put Out a Fire Damper." We are taking an opportunity to propose a tentative recommendation on this subject which has been accepted by many of the agencies in the East Bay Area.

The panel members will be Maury Laks of G. L. Gendler and Associates, representing the consulting engineer; Al Mockus of Wonder Metal Products Company, representing the suppliers; Al Kieselbach of Aladdin Heating Corporation, representing the contractors; Bill Pachetti of the State Fire Marshals office; and Guy T. Castino of Underwriters Laboratory, representing the interpretative agencies.

This is a rare opportunity so I hope you can take advantage of it.
 The session starts promptly at 5:50 P.M.

HONOR ROLL

E. C. COOLEY COMPANY

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San Francisco, California 94103

Phone UN. 3-2211

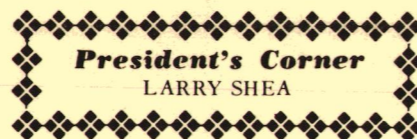
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Ye gads. This is a message from your bloodied president. Someone once told me the president is supposed to work his committees; this year it's the other way around. The committees are working the president to death and already I feel like applying for old age benefits and Medicare.

The Code and Legislation committee is hard at work and will undertake the yeoman's chore of fundamental rethinking on the S.F. code. They'll come up with a model that can be emulated by other communities, won't they Millar?

Leo (the lion) Dwyer, and Gene (let's have a meeting on that) Dewree are doing an effective job of searchlighting the problem areas of our industry and will soon commence to issue fair standards for voluntary adherence by all. If you have a pet peeve spill it to them.

The Education Committee has had a number of orientation meetings, and on the 20th last Chesebro, Dana, Gaffney, and Shea attended a dinner at City College. The bread breakers were counselors at those high school in S.F. that have a pre-engineering technical course. The "get acquainted" effort may be digging deep, but such grass roots effort now will bear fruit in a few years when a fresh supply of new men are available for our industry.

Competition for new men is fierce. Recently 100 industry recruiters were at S.F. State signing up next years' graduates. This is typical of efforts at all campuses and is considered normal practices by more alert industries. We will have to be GOYD's, hopefully beating the recruiters to the punch by a few years. Our recruiting effort will be by our "adoptaschool" program. We intend to establish liason with the high school and junior college counselors and we hope to succeed in encouraging them to encourage students to come into our field. Let's hope no one starts a kindergarten program.

This is the reason for our recent Manpower questionnaire. We weren't being noseyp but we must have facts and figures on manpower demands and pay scales in dealing with these people. If you haven't returned your

et, please do so, so we know of your needs. And remember, them what works, gits. We need GOYD's in this effort.

Incidentally, as of Nov. 15, Don Bryant had single-handedly signed up 35 student members from a start of zero. It can be done! Congrats and bouquets, Don.

Our Seminar committee is also planning their work based on your returned questionnaire. We want intelligent programs to satisfy current educational needs of members now in our industry. We need not be ashamed of the fact that we don't know all of the answers, but we'll be stupid if we don't make an effort to find them out. Please send comments to Dick Charles and return those questionnaires to me now.

This month please spare John Rudy and me the rack by returning those reply cards NOW if you intend to grace our meeting with your presence. I don't know about John, but I don't have much blood left.

MINUTES - NOVEMBER MEETING

The meeting was held at the Engineers' Club and was called to order by President Shea at 7:45. Self introduction of members and guests followed.

The minutes were approved as published in the Fog Dispenser.

A request was made by Larry Shea for members to serve on the National Technical Committee on Testing of Air Cleaning Devices.

Gus Gendler gave a short report on the background and development of the Fire Damper Manual of the Sheet Metal Heating and Air Conditioning Contractors of Alameda and Contra Costa Counties. He complimented those responsible for the development of the Manual especially Bill Pachetti of the State Fire Marshall's Office. The Manual is not a code or an ordinance, but is representative of the thinking of all of the cities and counties and the state in the area covered. It should be a real asset to the Mechanical Engineer and Contractor. Copies are available free from the Sheet Metal Industry Fund, Phone 451-9500.

The Chapter received a letter from John B. Hirt, Acting Dean of Engineering at California State Polytechnic College in San Luis Obispo in appreciation for our check in the amount of \$1000 on behalf of the Golden Gate ASHRAE Workshop Fund.

President Shea presented badges to new members: Joe McClellan, Ray Thornby, Normal T. R. Heathorn and Richard Brannin.

Vice-President Voelz, Program Committee Chairman solicited suggestions for next month's meeting. He then introduced Mr. Robert C. Levy, Superintendent and Mr. Alfred Goldberg, Assistant Superintendent of the Bureau of Building Inspection, Department of Public Works for the City and

County of San Francisco, who spoke on the Heating and Ventilating portion of the San Francisco Building Code. Mr. Levy discussed the problems involved and stated that he was not happy with the present Mechanical Code. The City is in the process of revamping its entire Code. The new format will be part Uniform Building Code, part San Francisco existing, part new. There will be no separate Mechanical Code. It will be incorporated in Articles #41 and #51 of the new Code.

The Inspection Department must concern itself with "Health, Safety and Welfare" rather than function. A prime area of concern is Fire Safety. The importance of containing a fire within a room or at least within a single floor was stressed. This is an easy problem to solve for door and walls, but air ducts present the biggest problem.

Mr. Levy then discussed the following problem areas: DUCT MATERIAL-What happens twenty years from now? How will the flame spread change? The spread of smoke is as important as the flame spread. Non metallic duct have been approved on occasion in the past. New code will be more liberal; HOW TO TEST DUCT- Underwriters' Laboratory? Southwest Testing Lab? Both respected agencies yet contradict one another; COLLAPSE OF DUCT-With fire inside or outside; FIRE DAMPERS-Do they work? Will they continue to work after ten years? How to activate them? Fusible links or smoke detector? Levy expressed a preference for smoke detectors. Method of supporting fire dampers in non-metallic ducts? NBFU 90A NATIONAL EXITS CODE-Protection from floor to floor only. New San Francisco Building Code should be based upon spread within the floor; POSSIBLE HAZARD FROM FILTERS AND OTHER COMPONENTS-Should they be regulated? Not enough documentation is available, forced to depend on knowledgeable people; DUCT CONNECTORS-Limited approval has been given in the past. There is insufficient evidence to know whether San Francisco has been too strict or not strict enough; DIFFUSERS IN FIRE RATED CORRIDORS-How to get Safety and function? GENERAL PROBLEM OF PLENUMS-Return air Dampering; HOW TO SHUT OFF A SYSTEM IN CASE OF FIRE-Should this be done on a floor by floor basis or the whole building?

After stating the problems Mr. Levy solicited help. He would like to meet with a committee from ASHRAE to look for answers.

Mr. Levy made two short comments on HR Bill #12142, The Hud Code. He was against the passage of a Federal Code and pointed out that just as fire fighting capacities of a large city vs. a county community vary, the code requirements therefore, should vary accordingly. He felt that each ASHRAE member should give careful consideration to the Bill and apprise their elected representatives of their feelings in the matter.

A lively question and answer period followed. New subjects such as "Noise" came up. Is it a health problem? Should it be covered by Code, and the inconsistent UL requirements on packaged equipment vs. larger built up systems.

The meeting adjourned at 10:15 P.M.

WESTERN AIR CONDITIONING 1970 EXPOSITION

William P. Tennity, Board Chairman of the Western Air Conditioning Industries Association announced today in Los Angeles that the Association will sponsor the WESTERN AIR CONDITIONING EXPOSITION (WACE) in San Francisco to run simultaneously with the national ASHRAE semi-annual meeting January 19-22, 1970. The regular biennial shows of the Association scheduled for 1968 and 1970 in Los Angeles will be eliminated in order to give full support to this, first show of its kind on the West Coast.

THE WESTERN AIR CONDITIONING EXPOSITION is scheduled to fill the whole Brooks Hall-San Francisco Civic Auditorium complex with 500 booths. Philip R. Freeman & Associates, well-known industrial show management firm, will handle the Exposition. It is estimated that the show will attract over 25,000 businessmen, by invitation only, including an anticipated 2,000 delegates to the ASHRAE Meeting. Featured in exhibits will be the latest developments in heating and air-conditioning for home and industry.

Over 1500 rooms have been blocked out by the San Francisco Tourist & Convention Bureau at the San Francisco Hilton Hotel for ASHRAE delegates and meeting activities. Exhibitors in WACE will be located at Del Webb's Towne House, one block from Brooks Hall. Free shuttle buses will run throughout the four days between the Hilton, the St. Francis Hotel, the Towne House and the Exposition.

Specific information regarding all aspects of the WESTERN AIR CONDITIONING EXPOSITION can be obtained from Philip R. Freeman & Associates, 77 Jack London Square, Oakland, California 94607, Telephone (415) 451-7971.

MAIL OR PHONE NEWS TO:

Editor, Fog Dispenser
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San Francisco, California 94124
Phone: 467-9076

MEMBERS AT APRIL MEETING

Jim Breese	C. A. Gillet Co.
Elmer F. Guy	Emerick Sheet Metal
Clyde E. Walters	City of San Francisco
Eric Roberts	Retired
Walt Crockwell	Cleveland Controls
John Brose	The Brose Co.
Jim Williams	Industrial Steam
Mike Bekedam	Industrial Steam
Chuck Kopf	Fulton Sylphon (Robertshaw)
Jim Dana	Rinco Engineering
R. D. Rector	Harrison Mech.
Jim Lazor	E. B. Ward Co.
Ed Leedom	Air Filter Sales & Service
F. Lockwood	Oakland School Dept.
Wayne Hafmer	Westinghouse Electric Corp.
Pat Geis	Engineered Air
Alan Shadgett	Westinghouse
Reid Chappell	Kaiser
George Michell	Commercial Air Cond., Inc.
Al Falkenstein	Kaiser
Bob English	Harrison Mech.
Frank Godem	Bentley Engineers
Don Locke	Servodyne Corp.
Jim Witham	Fraser & Johnston Co.
Roger Chesebro	Fraser & Johnston Co.
Bob Phillips	Low & Phillips
Charles Hardeman	C. S. Hardeman, Inc.
Claus D. Speier	Northstate Distr. Co.
Philip B. Beggs	Paul W. Beggs & Son, Inc.
Bob Beggs	Paul W. Beggs & Son, Inc.
Chuck Bailey	Shell
Fred Vann	Vann Engineering
Karl Baldwin	Ramsey Engineers
Carl Landers	Trane Co.
Tom Douglass	Douglass Insulation
John Capitulo	Johns-Manville Sales
D. E. Keown	C. S. Hardeman, Inc.
Dick Charles	Charles & Braun
K. Guttman	Kasin & Guttman
Ralph Williams	Lillard Co.
Clyde Burkey	Lillard Co.
Carl H. Jordan	G. L. Gendler & Assoc.
Tom Conroy	Clyde Equipment Co., Inc.
Robert A. Wistort	Robert A. Wistort Contr. Engr.
Joe Beck	Atlas Heating
Al West	Colan Heating
Max Wolff	Dill & Sederberg Plumbing
Don Williams	Consulting Engineer
Gene Valerio	E. B. Ward & Co.
Jack A. Palmer	California Hydronics
Chuck McLaughlin	American Blower
A. L. Mudica	Hess, Greiner & Pollard
Leo Dwyer	Ralston & Dwyer
Jack Chamberlain	Marelich Mfg. Co.
Lewis S. Pollack	Trane
Per Sonander	Skidmore, Owings & Merrill
Jack Kniveton	Norman S. Wright & Co.
C. W. Dombitsky	P B Q & D
Lyle Schuelke	L. D. Schuelke Co.
Pete Knezevich	Combustion Utilities
Art Ciapponi	Pacific Pumping Co.
Mike Reichlin	Pacific Pumping Co.
Fred Espey	Ilg. Industries
Gene DeWree	Associated Process Controls (Formerly N. T. Hatter Co.)

Howard Friesen
Dan Marelich, Jr.
Ken Lloyd
Bob Swezey
Arel W. Berrier
Ralph Wallace
James Parsons
Robert Tuck
Irving Alger
Bill Barron
Dick Friedman
L. Shea
Tom White
R. Voelz

GUESTS AT APRIL MEETING

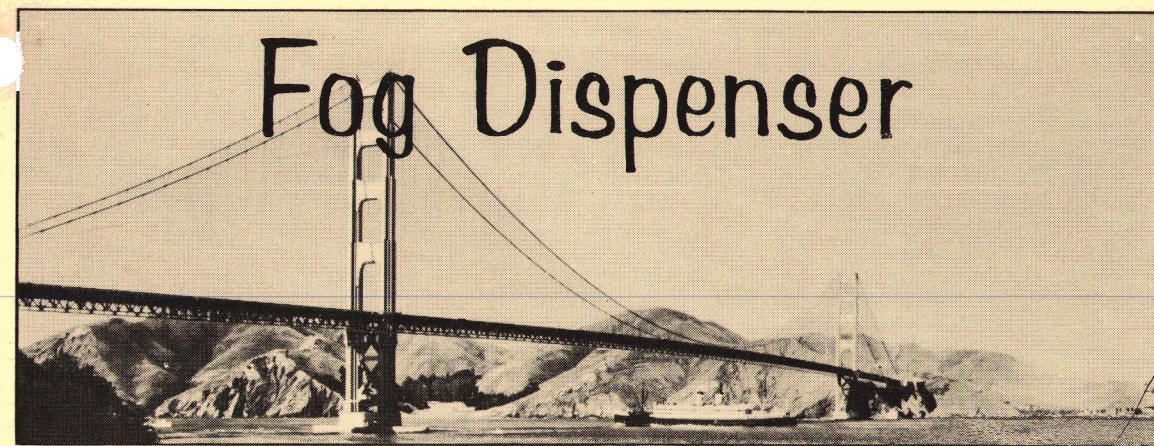
Ted Takaoka
P. S. Gujral
Bob Judd
J. Veremsay
G. Sleafy
Ralph Munez
Heman Weihl
Merwil Linsley
Richard J. Omania
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American Blower
Skidmore, Owings & Merrill

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N. V. Heathorn, Inc.
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C. S. Hardeman, Inc.
York Corp.
Atlas Heating
York Corporation
Norman S. Wright & Co.
Pacific Pumping Co.
United Sheet Metal Co.
(Columbus, Ohio)

was the first Consulting Engineer to analyze coil selection problems with a fundamental view and came up with a new approach to coil selection. Approximately eight years ago he was the first Consulting Engineer to utilize digital computers to attack design problems. This originality and good sense has helped maintain his firm's reputation for quality and excellence in engineering.

After a description of the building, its design problems, and its systems we will break up into small groups for a guided tour of mechanical equipment spaces, typical office floors and the Club itself. We will then reconvene for a question and answer period thereafter. We can assure you of an evening filled with interesting information with respect to originality displayed in solving some common problems in office building design. This is our last meeting of the year so come out to see old friends and familiar faces.



Fog Dispenser

GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVI No. 8

MAY 1967

PROGRAM CHAIRMAN: LARRY SHEA

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB, HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STREETS, San Francisco on May 4, 1967. Social hour will be at 5:30 P.M., dinner at 6:45 P.M.

FIELD TRIP - HONG KONG BANK BUILDING

For a year now we have been meeting in the Engineers' Club, and have been enjoying our beverages and food in its luxurious surroundings. Many of us probably do not realize that this building in itself has many unique features which we are sure would be of interest to the membership. Many have passed favorable comments with respect to the fact that the air conditioning system works quite well, and does an excellent job of clearing away the persistent cigarette smoke without any noticeable drafts and without outlets being obtrusive. Many are unaware of the fact that the design engineer was faced with many corresponding challenges in design requirements. For example, zero clearance between beams and ceiling, achievement of maximum rentable space in an office building situated on an extremely small site, the problems of modular design with ability to relocate partitions and still maintain the same quality of air conditioning control. Not only is the building unique, but so is the design firm.

Our guest speaker will tell us about the uniqueness of design and what was done to overcome the unusual problems. He is one of our own fellow Chapter members, Tom Simonson. Tom, as you know, is one of our Past Presidents. He received a B.S. in '39 from U.C. at Berkeley, and a PhD in '47 from the same institution. For a number of years he was engaged in research in chemistry. He left this field in 1952 to become a partner with his dad, G.M. (Met) Simonson. The firm was founded in 1924 by his dad, and by an odd coincidence Tom was president of our Chapter exactly twenty years after his dad was president. Tom is a registered M.E. and is Past President of the Consulting Engineers' Association. Tom has a number of technical articles to his credit, is on the National Technical Committee and has a number of "firsts" to his credit also. He

(Continued on back page)

PRE-MEETING WORKSHOP

CHAIRMAN: BILL BARRON

The topic for discussion will be "Air Filtration And Air Filter Testing" as it involves the engineer, contractor and owner. Come at 5:30 before the regular meeting.

HONOR ROLL

POWERS REGULATOR COMPANY

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Attendance _____ A. L. Mudica
Membership _____ Robert Tuck
Finance _____ Dick Friedman
Technical _____ Ken Mirov
Reception _____ Jack A. Palmer
Roster _____ David Rifkin
Education _____ Roger Chesebro
Publicity _____ Ron Wilson
Engineering Council _____ Robert Voelz
Research Fund _____ John Brose
Dance _____ Max Wolf

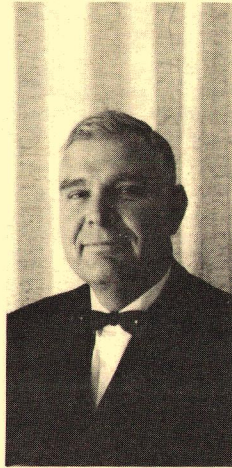
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Staff Writer _____ Jim Booth

Honor Roll Chairman _____ Joe Murray

President's Corner

Arel W. Berrier



Like many of the former presidents of Golden Gate Chapter, I too feel that the past year has moved very swiftly. What seemed like a very formidable task at the start has turned out to be a very pleasant and gratifying experience.

In reviewing the past year, the Air Balance Seminar and our pledge of \$3,000 to the ASHRAE Research Fund ranks as our high point, and Bob Noll deserves most of the credit for this accomplishment. We are all looking forward to a

continuation of this type of education series.

However, our meetings have all been well attended, the programs interesting and varied, the pre-technical sessions well received, and all of the committees have done a swell job in the performance of their functions. I want to thank all of the officers, committee chairmen and members for their fine cooperation.

Our new Slate of officers are very capable, and will not only carry on our present programs but institute new ones as well. Already, a few of the officers are planning ahead to attain some of the goals in Education, Manpower, and other related fields.

In closing I hope that by more active participation of engineers, contractors, and suppliers we might improve the image and stature of our industry. Perhaps we might also re-capture some of that element called profit by working and cooperating more closely with each other.

Workshop a success (continued)

As can be seen from the subject matter, some of the discussions were technical, some general, some devoted to griping and others entirely constructive. Let's insure ourselves of continued excellent pre-meeting workshops by suggesting new topics to Ken Mirov and regularly attending the sessions.

MAIL OR PHONE NEWS TO:

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MINUTES - APRIL 1967

The meeting held at the Engineers' Club in San Francisco was called to order by President Berrier at 7:45 p.m. Members and guests were introduced.

Under old business, the minutes of the March 2 meeting were approved as published in the Fog Dispenser. Ed Leedom gave a report on the results of the ballot for officers for 1967-68. Results were: Larry Shea, President, 154 votes; Robert Voelz, Vice President, 154 votes; Dick Friedman, Secretary, 153 votes; George Aronovsky, Treasurer, 152 votes; Irving Alger, Board Member, 152 votes; Arel Berrier, Board Member, 154 votes; and Charles Hardeman, Board Member, 148 votes. Carl Jordan received 1 vote for Secretary; Jim Parsons, 1 vote for Treasurer; Dave Rifkin and Gene De Wree 1 vote each for Board Member.

John Brose reported that the Chapter had pledged \$3,000 to the National Research Fund this year and that most of the money will be raised from the Air Balance Seminar. Brose indicated that the success of the Seminar was largely due to the efforts of Bob Noll. At this point, President Berrier called Bob Noll forward and presented him with a small token of appreciation from the Chapter for his efforts in making the Seminar a success.

Larry Shea reported on the very fine Region X Chapter's conference in Tucson this year. Shea noted that at the conference it was pointed out that National needs some 1500 people or approximately 8% of its membership to fill national office and committee positions each year. Golden Gate Chapter, with only two people participating, is far behind the average. Tom White, one of our two members who is on a National committee, gave a little further discussion along these lines.

Roger Chesebro urged all members to get their Cal Poly ASHRAE Workshop Fund pledges fulfilled as soon as possible. Several people from Cal Poly will be up to attend our May meeting to tell what is being done with the money we have sent in the past. Roger introduced Don Bryant from City College who told the Chapter a few words about the air conditioning courses that are being conducted at the school and the need which exists for speakers from our industry to come in to talk to the students regarding air conditioning. All those interested in serving on a Speakers' Bureau to fulfill this need were requested to contact Bob Phillips or Roger Chesebro.

Don Locke announced that the June Social is planned for Saturday, June 10, at the Peacock Gap Country Club in San Rafael. The theme this year will be Mexican and tickets are available at \$19 per couple from all Past Presidents, current officers, committee chairmen and the members of the Social Committee.

After a brief recess, Larry Shea, Program Chairman, introduced the speakers' panel for the evening which consisted of James Parsons of Pacific Telephone, Ralph Wallace of Bentley Engineers, William Barron of William A. Barron Company and Max Wolff of Dill & Sederberg and Panel Moderator Robert Tuck of Tuttle & Bailey. Their topic for the evening was Job Roles and Responsibilities.

Jim Parsons, offering the owners' point of view, indicated that their direct participation in projects varies considerably depending on the type of structure being built. On some of the Telephone Company's projects, they are merely leasing a building and only have a small say in what happens during the construction phase. In such instances, their say is usually limited to the terms of their lease agreement. On the other hand, when they build their own buildings for their own use, the Telephone Company is much more particular about what goes into the building and generally plays a much more active roll in selecting equipment and materials.

Ralph Wallace, speaking for the consulting engineers, stated that he felt the engineers' responsibility was to select the proper system for the buildings. He further recommended that the actual equipment selection and duct layouts be turned over to the contractors and suppliers and that they be held responsible for this phase of the work. During the discussion period, most other engineers indicated that they did not agree with Mr. Wallace's approach and felt that the responsibility regarding design and layout must remain with the engineers.

Bill Barron, talking for the suppliers, indicated that they had responsibilities to provide the engineers with good engineering information and inform them if he thought some particular design would not work properly. He noted that the suppliers should be responsible to the contractors by bidding true equals and only giving bids which would provide a reasonable profit.

Max Wolff, giving the Mechanical Contractors' viewpoint, stated that they would like to see more sets of plans and specifications available for their use at bidding time and feel that the mechanical engineers should more accurately examine whether the equipment of the second and third specified manufacturers will fit into the space provided. If not, they should not, in his opinion, have been specified.

After a very lively discussion period, the meeting was adjourned at 10:10 p.m.

Respectfully submitted
Bob Voelz, Secretary

SOCIAL

Please remember the Dinner-Dance planned for **JUNE 10** at the Peacock Gap Country Club. Our Social Committee has been augmented by the addition of Herb Duncan, Lewis Pollack, Bill Barron and Charles Kopf who are helping to plan a real swinging good time.

Hold this date open. There will be more details at the meeting.

* * * *

You can accomplish anything if you have patience. You can even carry water in a sieve if you wait until it freezes.

* * * *

When a stranger identifies you from a friend's description, it's just as well you didn't hear the description.

ASHRAE RESEARCH FUND AIR BALANCING SEMINAR

Two methods of raising funds for ASHRAE Research for 1967 were selected by the Golden Gate Chapter.

First it was decided that manufacturers in the Bay Area of products which are related to the heating, air conditioning, and refrigeration fields would be solicited for contributions. Approximately \$400 was raised through this effort.

Secondly, a seminar on air and hydronic balancing was to be presented by the Associated Air Balance Council. This seminar was to consist of a series of six meetings at a cost of \$20 per person. A total of 270 people registered, and there was an average attendance of 220. Of those who attended, the majority attended every meeting, which would indicate widespread approval.

We would like to commend Bob Noll and the entire Servodyne Corporation for the outstanding job which they have done in presenting this seminar. From the response of those who have attended, we are sure that seminars on other subjects will become an annual event in the Golden Gate Chapter. Not only has this seminar proven to be a great financial success for the ASHRAE Research Fund, but it was also of great benefit to the local Heating, Ventilating, and Air Conditioning Industry.

Richard A. Charles, Member
ASHRAE Research Fund Committee

AIR CONDITIONING LABORATORY CITY COLLEGE OF SAN FRANCISCO

The City College of San Francisco has for the past several years offered a course in Air Conditioning and Refrigeration to engineering students of this area and has equipped their laboratory with the air conditioning and refrigeration equipment of the latest design. Completion of the course prepares students for employment in the Air Conditioning and Refrigeration industry, such as installation and servicing technicians, junior designers, field engineers, and sales engineers. The course is taught by Mr. Donald Bryant who has been interested in providing a course of this type for many years and was helped considerably in the inception, design, and construction of the laboratory.

A large graphic panel portrays the Air Conditioning system and its accompanying pneumatic control system. The panel is in color and aids both the teacher and the student in visualizing and checking the operation of the Air Conditioning system at any point at any time. This graphic control panel allows the operator to set any condition in the laboratory by the use of control stations located on the panel and integrated into the pneumatic control system. The number of industrial controllers are utilized on the panel for controlling, indicating, and recording temperature and humidity conditions throughout the laboratory.

Mr. Bryant uses this graphic control panel in his lectures as well as his demonstrations and the students utilize its features in their lab problems. Mr. Bryant also uses the laboratory and the graphic control panel in courses he conducts with the University of California, Extension Division as

well as visiting groups from the many professional Air Conditioning and Refrigeration societies in Northern California. The students perform all the maintenance on the Air Conditioning and Refrigeration equipment as a part of their instruction and all of these students are in great demand in the area upon graduation.

Mr. Bryant will be at our next meeting to explain his activities in more detail and answer any questions.

GUESTS AT THE MARCH MEETING

Mel Hermansen	Climate Mfg. Co.
Bob Noll	Servodyne Corporation
Harry Hoppe	A. R. Peterson Sheet Metal
K. O. Alexander	York Corporation
R. J. McClenahan	Keller & Gannon
Mike Grimes	Scott Co. of California
Howard Wendland	A. R. Peterson & Sons
John O. Crumb	Kasin & Guttman Assoc.
Ralph McKee	Janitrol Division
Merwin Linsley	Bentley Engineers
P. S. Gulral	Skidmore Owings & Merrill
Dave Kindorf	Montgomery & Roberts
Bob Judd	Montgomery & Roberts
Bill Hunnicutt	Norman S. Wright & Co.
John Furnas	ILG Industries
John E. Marshall	Amber/Booth Co.
R. J. Irving	Amber/Booth Co.
W. D. Rinefort	Carrier
K. W. Lawrenson	Carrier
C. W. Sturgeon	Carrier
G. W. Mukelson	Carrier
Ken DeBaun	Servodyne Corporation
Dan S. Wong	ROICCPAC
Herman Verbrugge	J. H. Pomeroy
Jim Hellwarth	Trane
Andy Feiner	Tempco

Two Spanish detectives were standing over the body of a man named Juan Gonzales. "How was he shot?" inquired the first.

"I theenk eet was a golf gun," said the other.

"But what ees a golf gun?"

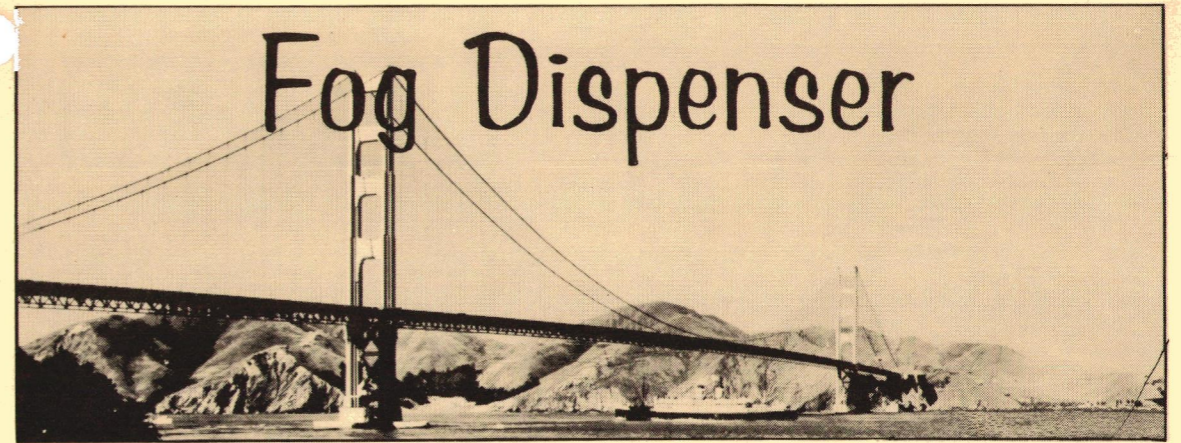
"I don't know exactly, but eet sure made a hole in Juan."

* * * *

One thing about those short skirts: They've done more to make bus riding endurable than anything since the ban on transistor radios.

* * * *

The trouble with success is that the formula is the same as the one for a nervous breakdown.



GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVI No. 7

APRIL 1967

PROGRAM CHAIRMAN: BOB TUCK

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB, HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STREETS, San Francisco on April 13, 1967. Social hour will be at 5:30 P.M., dinner at 6:45 P.M.

JOB "ROLES & RESPONSIBILITIES" PANEL DISCUSSION

The panel is as follows:

James Parsons	- Pacific Telephone & Telegraph Co.
Ralph Wallace	- Bentley Engineers
William A. Barron	- Wm. A. Barron Co.
Lowell Young	- Valley Sheet Metal

The panel will explore the various problems each face during the construction period, limiting this exploration to the "Mechanical Portion" of the building.

The goal of the panel is to bring forth some useful ideas we all might use to advantages in planning and constructing future projects.

A question and answer period will follow the discussion. Bring a friend and ask lots of questions.

PRE-MEETING WORKSHOP CHAIRMAN: TOM GILBERTSON

One of our electricians was exclaiming that a firm that he had never heard of entitled "Others Electric Company" was getting all the work these days. I told him that I had never heard of "Others Electric" and I wondered where he had seen the name. He said, "Man every drawing I look at says "By Others", and I

APRIL ANGEL

JOHNSON SERVICE COMPANY

invoiced 3/31/67
New Expanded Quarters at 165 - 13th Street, San Francisco, California
Same Telephone UN 1-6353 New Branch Manager - Mr. J. B. Smith

Published monthly by the Golden Gate Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1371 - 15th Avenue, San Francisco, California 94122. LO 6-2740.

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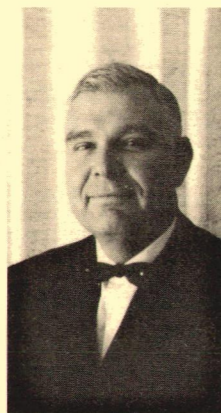
Program _____ Larry Shea
Attendance _____ A. L. Mudica
Membership _____ Robert Tuck
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Roster _____ David Rifkin
Education _____ Roger Chesebro
Publicity _____ Ron Wilson
Engineering Council _____ Robert Voelz
Research Fund _____ John Brose
Dance _____ Max Wolf

FOG DISPENSER STAFF

Editor _____ Pete Knezevich
Staff Writer _____ Jim Booth
Angel Procurement _____ Joe Murray

President's Corner

Arel W. Berrier



By the time this Fog Dispenser is received, our delegates Larry Shea and Bob Voelz will have attended the Region X meeting in Tucson and made a report on the activities and achievements of Golden Gate Chapter.

Certainly, our outstanding achievement is the successful Seminar on Air Balance recently completed. Not only have we been able to make a pledge of \$3,000 to the Research Fund, but those attending have become more knowledgeable

of the subject. All of us can take great pride in this.

I have asked Dick Charles to write a constructive appraisal of the Seminar which appears in this issue.

On behalf of the Officers and Board Members, I want to thank Bob Noll for his time and effort spent in planning, promoting, and conducting this series. Many of you may not know that he volunteered for the job, and countless hours were spent in developing the program, mailing out bulletins, making arrangements with PG & E for their facilities, plus countless other details. I also appreciate the cooperation of the Research Fund Committee and others that have helped.

In the field of program, I feel that those during the present year have been excellent. I've heard many members state that the last meeting on Noise Control by Mr. Warren E. Blazier, Jr. was one of the finest ever at our Chapter. How about taking time and compliment Larry Shea on the good job he and his committee are doing.

RESEARCH FUND

The Board of Directors at our March 7th meeting directed our delegates to the Region X meeting in Tucson to pledge the sum of \$3,000.00 to the Research Fund from the Golden Gate Chapter.

This sum was derived from gifts made to the Fund by members, local industries, and from the surplus money paid to attend the Air Balance Seminar over and above expenses. Over 260 members attended the six week course, and a full account of the income and expenses have not been completed.

However, any surplus over and above that pledged will be carried over into next year's Research Fund. A full account will be made and announced later.

MAIL OR PHONE NEWS TO:

Editor, Fog Dispenser
% COMBUSTION UTILITIES INC.
1485 Bayside Blvd.
San Francisco, California
Phone: 467-9076

MINUTES - MARCH 1967

The meeting was held at the Engineers Club and called to order by President Berrier at 7:45 p. m. Members and guests were introduced.

Under old business, the minutes of the February 9th meeting were approved as published in the Fog Dispenser. Tom Simonson gave a report of the Nominating Committee for the new slate of Chapter Officers for 1967-68. The recommended slate included Larry Shea as President, Robert Voelz as Vice-President, Richard Friedman as Secretary, George Aronovsky as Treasurer, and Arel Berrier, Irving Alger and Charles Hardeman as Board Members. President Berrier called for additional nominations from the floor, but there being none, nominations were moved to be closed and the ballot accepted as presented by the Nominating Committee. President Berrier instructed the Secretary to send the ballots to all members and appointed Bob Phillips, Keith Alexander and Jim Van Buskirk to count the ballots and report the results to the Chapter at the next meeting.

Bob Noll reported that the Air Balance Seminar was very successful to date. There were 260 people registered to attend and four more sessions to go. The first two sessions concerned the basics of air balance and air balance equipment, and the next four sessions should get further into the details of balance procedures, balance verification and water balance. Duane Hanson expressed an opinion that he thought that the first two sessions were too basic. Dick Charles expressed a second opinion that he thought the first two meetings were very good and that they included something for all of us to learn.

President Berrier read a telegram from the Tucson Chapter inviting us all to the Region X meeting on April 6, 7 and 8. Our normal, first Thursday of the month meeting will be shifted next month to the second Thursday (April 13) to allow for attendance of both meetings.

Roger Chesebro announced that the Cal Poly Workshop Pledge notices have been mailed out and that an early response would be appreciated. If any of the members wish to increase their pledges this year and in the future, the increases will be gratefully accepted. Don Bryant from San Francisco City College has been invited to attend next month to talk briefly on what the Chapter might do to help his heating and air conditioning students with their studies and future employment.

Don Locke announced that the yearly social will be held at Peacock Gap Country Club in Marin County on June 10. It will be a dinner-dance and tickets will be available shortly at \$20 per couple.

After a brief recess, Larry Shea, Program Chairman, introduced Mr. Warren E. Blazier, Jr. of the acoustical firm of Bolt, Beranek and Newman who presented an interesting speech on vibration isolation of mechanical systems and air distribution noise control.

Mr. Blazier indicated that there were three basic means by which noise generally got into buildings, namely, by structure-borne transmission, air-borne transmission and duct-borne transmission. Structure-borne transmission generally is a problem of inadequate vibration mounting and represents a very large portion of his firm's work. Air-borne noises are generally a result of inadequate walls, floors and ceiling around mechanical equipment spaces. Air duct transmitted noise

generally comes from the fans, turbulence at dampers or fittings and from the outlets themselves. Good acoustical design requires close coordination between the architect, the structural engineer and the mechanical engineer plus close supervision of the installations to avoid short circuiting of the acoustical devices. Structures must be rigid before vibration mountings can work to the efficiencies shown on the vibration isolation curves. Through experience, his firm has determined that the ratio of the spring deflection to floor deflection must not be less than 10 to 1 to attain 90% isolation efficiency regardless of the frequencies involved. Spring isolation mounts should be laterally stable to prevent lateral movement and possible short circuiting. A good rule to follow in this respect is to size the springs so that the loaded height is not more than 1 to 1½ times the spring diameter and wherever possible leave some extra deflection available in the spring selection.

It has been their experience that flexible connections near pump discharges generally only correct for misalignment of pipe and pump. The noise generally carries through the liquid at this point of installation and excites the pipe again beyond the flexible connection. Flexible connections can be an aid acoustically if they are used downstream, possibly where the pipe leaves an equipment room.

Air outlets can cause many problems acoustically unless closely watched. Most manufacturers' printed ratings are based upon smooth inlet conditions which are very seldom attained in the field. Some extremely poor entrance conditions to diffusers have been found to produce noise levels from 15 to 18 db above manufacturer's printed information. Dampers in the outlets can also cause problems if too great a pressure drop is taken with the outlet damper.

Noisewise, Mr. Blazier's firm has generally recommended constant volume type air conditioning systems over variable volume type systems. This recommendation is based upon their experience that most people can detect a difference in the noise level at the air outlets if the air volume changes appreciably in a short period of time. If a thermostat cycles the air quantity very often, the change in noise level can be very distracting. This same condition has been found with many double duct mixing boxes as the air supply changes from full heating to full cooling and vice versa.

After a rather long question and answer session, the meeting was adjourned at 10:30 p. m.

Respectfully submitted
Bob Voelz, Secretary

SOCIAL

Please remember the Dinner-Dance planned for JUNE 10 at the Peacock Gap Country Club. Our Social Committee has been augmented by the addition of Herb Duncan, Lewis Pollack, Bill Barron and Charles Kopf who are helping to plan a real swinging good time.

Hold this date open. There will be more details at the meeting.

Pre-Meeting Workshop, cont.

assumed that they had all the work!", and that's exactly the problem. Just WHO does do WHAT wiring. How do you really specify the electrical interlock, where do you show it, are combination sheets for the electrical, mechanical a good idea, what are the REAL reasons for showing work the way you do. What is the REAL intent of these specifications and on what basis do you make your decision.

The April pre-meeting workshop will hope to bring together an electrical contractor, a mechanical contractor, engineers, control contractors, and YOU, to discuss the problems of wiring required for mechanical systems. See you April 13, at 6:00, bring a friend. (Maybe we can revive the "Thursday Night Fights").

MEETING CHANGE NOTICE

The next Chapter meeting will be on April 13, THE SECOND THURSDAY OF APRIL, and will be held in the Engineers Club at 6:30 p.m. Pre-meeting workshop at 5:30 p.m.

MEMBERS AT FEBRUARY MEETING

Leo Pumphrey
Helumet Lounner
Jim Johnson
Sheldon Doolittle
Dan S. Wong
Ray L. Herman
Chuck Kopf
Bob Swezey
Al West
Max Wolff
Ted Georgiou
F. M. Palacios
Bob Phillips
Jim Witham
Roger Chesebro
E. C. Leedom, Jr.
Karl Baldwin
Frank Lockwood
Joe M. Nussbaum
Jack Kniveton
Herman Bauer
Bob Wistort
Dick Charles
Terry Scavone
Coe Kellogg
Harry Hoppe
Bob Anderson
Millar Clarke
Dick Fujioka
Clyde Burkey
Ralph Williams
K. Wittmann
Ron Wilson
Jim Dana
Bob De Chene
T. R. Simonson
Val J. Burke
L. E. Shea
Robert D. Montgomery
Gus Gendler
Charles Hardeman
J. Sprott
Clyde Wilson Reid
Joe Beck, Jr.
Dick Friedman
Irving Alger
Robert Voelz
Ross M. Sherrill
"Cap" Blake
Neil Eskra
Al Mudica
John Werner
Miles Suda
Jack A. Palmer
Tom Gilbertson
John Brose
John A. Linford
Robert C. Linford
George Michelle
Jim Fowler
Ken Mirov
Maurice Laks
Sam Yamauchi
Jim Van Buskirk
Don McLeod
Elmer F. Guy
Ken Lloyd
Alfred R. Lowey
Pete Knezevich
Art Ciapponi
Mike Reichlin

Natkin & Co.
Yanow & Bauer
Natkin & Co.
C.I.R. Co., Inc.
U. S. Navy
RMK-BRJ
Fulton Div.-Robertshaw
Burke and Company
Colan Heating & S/M Co.
Dill & Sederberg
Worthington Air Cond.
P.O.D. Engineering
Low & Phillips
Fraser & Johnston Co.
Fraser & Johnston Co.
Air Filter Sales & Service
Ramsay & Assoc.
Oakland School Dist.
Mfg. Rep.
Norman S. Wright & Co.
Yanow and Bauer
Slip-Shod Engineering
Charles & Braun
A.R. Peterson S/M
A.R. Peterson S/M

Western Asbestos
B.M. & T.R. Simonson
Rogers Engineering Co.
Lillard Company
Lillard Company
Kating Wittmann
American Air Filter Co.
Rinco Engineering
Lawrence Rad. Lab.
G.M. & T.R. Simonson
Burke and Company
Shea Equip. Company
Montgomery & Roberts
G.L. Gendler & Assoc.
C.S. Hardeman, Inc.
Ray Oil Burner
Clyde Equipment Co., Inc.
Atlas Heating Co.
Engineered Air
G.M. & T.R. Simonson
Skidmore, Owings & Merrill
Schlegel Mech.
Ray Winther Company
Ray Winther Co.
Hess, Greiner & Pollard
Trane Company
G.L. Gendler
California Hydraulics Corp.
Johnson Service Co.
The Brose Company
Linford Co.
Linford Co.
Commercial Air
Commercial Air
Trane Co.
G.L. Gendler & Assoc.
G.L. Gendler & Assoc.
A.O. Smith Corporation
Simpson & Stratta
Emerick Sheet Metal
Barber Colman
Chrysler Airtemp
Combustion Utilities
Pacific Pumping Co.
Pacific Pumping Co.

Charles Dombitsky
Bill Orton
Bill Barron
Don Dickson
Fred Vann
Gene De Wree
Harry Gaffney
Phil Beggs
Bob Beggs
Tom Douglass
Don Bradshaw
Jim Curtin
R. F. Giovannini
Roy W. Graves
Lewis S. Pollock
Leo Dwyer
Edward Long
Mike Grimes
Max Jones
D. Keown
Don Noon
Dry Ginn
Jim Breese
Frank Olsen
Jim Lazor
Dart Rinefort
Bill Gebbie
Frank Gonden
Donald Hagstrom
Bob Ruth
Larry Rolison
Arel W. Berrier

GUESTS AT FEBRUARY MEETING

Jim Sould
R. W. Noll
Jim Schuster
Phillip Raglen
Don Blom
Ed Kaufman
Don Levensaler
Ken Lawrenson
Bob Yonovitz
Howard Wendland
Keith O. Alexander
Dave Kindorf
John Furnas
John Chapman
Pat Lynel
Charles Gorwood
Henry Page
Ihsan H. Ali
Marlin Whitney
Mel Schneider
Bob Lincoln
Robert G. Hughes
Les M. Geshiney
Mike Cory
P. S. Guirac
Jim Emmons
Joe G. Ashley
Bob Judd
Duane Fairchild
Sloe Ginn
Bill Milligan
Art Gamble
Wayne Ketter
Howard Dauphimee
Ralph Wallace
Michael Tsoi
John Rudberg
Lew Brooks

P.B.Q. & D.
Pope Evans & Robbins
Wm. A. Barron Co.
Hess, Greiner & Pollard
Vann Engineering
N.J. Hatter Co.
C.S. Hardeman, Inc.
Paul W. Beggs & Son
Paul Beggs & Son
General Painting
Owens-Corning Fiberglas
Varian Associates
Harry Lee Plbg. & Htg.
Harry Lee Plbg. & Htg.
Trane Company
Ralston & Dwyer
Honeywell, Inc.
Scott Company
Scott Company
C.S. Hardeman, Inc.
Robertshaw
Robertshaw
C.A. Gillet Co.
Frank Olsen Co.
E.B. Ward Co.
Carrier
York
Bentley Engineers
P.G. & E. Co.
American Air Filter Co.
Ray Winther Co.
Berrier Sales Co.

Natkin & Co.
Servodyne Corp.
Robertshaw
C.I.R. Co., Inc.
Fulton Div.-Robertshaw
P.O.D. Engineering
P.G. & E.
Carrier
Simpson & Stratta
A.R. Peterson S/M
York Corporation
Montgomery & Roberts
ILG Industries
Ray Winther Company
Johnson Service Co.
Keller & Gannon
Simpson & Stratta
Kaiser Engineers
Vann Engineering
Ray Winther
Vann Engineering
Abrahams & Assoc.
Pope Evans & Robbins
Vann Engineering
S.O.M.
C.S. Hardeman, Inc.
Harry Lee Plbg & Htg.
Montgomery & Roberts
Self-Architect
Robertshaw
Robertshaw
Robertshaw
Burke & Co.
Jenkins Valves
Bentley Engineers
P.G. & E. Co.
Ellerbe (St. Paul Minn)
Ray Winther Co.



GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVI No. 6

MARCH 1967

PROGRAM CHAIRMAN: LARRY SHEA

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB, HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STREETS, San Francisco on March 2, 1967. Social hour will be at 5:30 P.M., dinner at 6:45 P.M.

NOISE CONTROL

The topic for the March meeting will concern itself with vibration isolation of mechanical systems in buildings and air distribution system noise control. There will be special references to high velocity air distribution systems, and slides will be used to illustrate typical problems that have been faced. Our guest speaker is well versed in this subject matter.

Mr. Warren E. Blazier, Jr. of the renowned firm of Bolt Beranek and Newman will discuss the subject matter. Warren has a B.S. in both Physics and Electrical Engineering, and has worked for such firms as Boeing and Borg-Warner in the past. He spent three years with the University of Wichita Foundation for Industrial Research, is a member of A.S.A., ASHRAE, and is a member of the Research Advisory Committee on Noise in Buildings.

He has directed research activities in the fields of acoustics and vibration, helped develop the standards for sound measurement recently adopted by the air conditioning industry, and has written a number of papers in this field.

At Bolt Beranek and Newman, Inc. his responsibilities are in the area of acoustical engineering and industrial noise control. His consulting projects have included noise control in offices and public buildings, mechanical vibration problems, and the design of laboratories for sound and vibration measurements.

The meeting promises to be most informative and educational, and we suggest that you get your reservations in early because we are sure space will be limited.

PRE-MEETING WORKSHOP

The February meeting did not materialize, so in March we will discuss the same topic - contractor's and engineer's licenses, what are the requirements, the purpose and can or should things be improved.

Come to the Pre-Meeting Workshop at 6 p.m. before the regular meeting and find out what "experts" have to say.

MARCH ANGEL

CLYDE EQUIPMENT COMPANY, INC.

920 Grayson Street

Berkeley, California 94710

Phone: 845-6130

Invoiced
3/31/67

Published monthly by the Golden Gate Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1371 - 15th Avenue, San Francisco, California 94122. LO 6-2740.

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Program _____ Larry Shea
Attendance _____ A. L. Mudica
Membership _____ Robert Tuck
Finance _____ Dick Friedman
Technical _____ Ken Mirov
Reception _____ Jack A. Palmer
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Dance _____ Max Wolf

FOG DISPENSER STAFF

Editor _____ Pete Knezevich
Staff Writer _____ Jim Booth
Angel Procurement _____ Joe Murray

PERISHABLES HANDLING CONFERENCE

The vast industry responsible for getting the nation's perishable food supply to consumers will draw the attention of engineers, scientists, storage and transportation figures meeting at the University of California at Davis, March 20-22, they will be attending the 1967 three day meeting of the Perishables Handling Conference.

Speakers will report on problems, new developments, marketing, research and needs of this industry charged with delivering to the consumer the best in wholesome, fresh fruits and vegetables.

UC Agricultural extension pomologist and marketing specialist F. Gordon Mitchell will serve as general chairman. He reported the first day's morning general session will outline the industry's problems from numerous viewpoints. Included will be those of shippers as well as receivers; of scientists concerned with the post-harvest keeping of fruits and vegetables; of the engineers who deal with processing, handling, packaging and storage; and the commercial carriers who deliver to market.

Discussions following will bring closer investigation of these problems, including new trends and developments.

The first afternoon will provide separate meetings for vegetable and fruit groups. Each will hear

President's Corner

Arel W. Berrier



Your officers and board met with Val Burke, our new regional chairman, prior to the regular meeting on February 9. Val Burke reviewed our Chapter activities with regard to program, membership, financial position, and other functions.

He was very pleased with the operations of Golden Gate Chapter and especially the present seminar on Air Balance which is now in progress. Needless to say, all of the officers and board members are also pleased. Maybe, I should use the word overwhelmed at it's success. The early concerns some of us had for the success of such a program have proved unjustified.

Val Burke also stressed the subject of manpower, and that each Chapter will have to play a larger educational role in this field. This air balance seminar is a step in this direction, and I hope that we can have a similar education program every year. Our industry cannot rely on the colleges, universities and the few technical schools in this field to supply needed personnel. As one of the largest professional engineering societies, we must help train our own men.

Val Burke also stressed the subject of honors and awards to outstanding members and engineers in this area. Certainly, our chapter has been remiss on this score and steps are now being taken to establish a committee to select local members who have made contributions to the industry over and above their normal vocation.

appropriate talks on handling, product physiology, packing house efficiency, and mechanization as related to packaging or production. Panel discussions will be held on product handling at the shipping point.

The final day, reports will be on new and future developments with emphasis on chemical and heat controls for decay, and the status of irradiation as a preservative.

Those interested in attending the Conference should contact:

Mr. H. B. Richardson
Agricultural Extension Service
c/o University of California, Davis Campus
Dept. of Viticulture & Enology

MAIL OR PHONE NEWS TO:

Editor, Fog Dispenser
% COMBUSTION UTILITIES INC.
1485 Bayside Blvd.
San Francisco, California
Phone: 467-9076

MINUTES - FEBRUARY 1967

The meeting held at the Engineers Club was called to order by President Berrier at 7:45 p.m. Members and guests were introduced.

Under old business, the minutes of the January 5 meeting were approved as published in the Fog Dispenser. President Berrier introduced and passed out name badges to new members Ed Kaufman, Robert Yanovich, Maurice Laks, Don Levensaler, Tom Gilbertson and Ralph Wallace.

Under committee reports, Al Mudica, Attendance Chairman, indicated that we had 140 people in attendance but that he had only made reservations for 108 people because of attendance response. A better percentage of card response would be greatly appreciated in the future. Dave Rifkin, Roster Chairman, reported that this year's roster is completed and will be mailed to all members this month. Bob Voelz, Engineering Council Delegate, announced the details regarding the Engineers Week Banquet. Roger Chesebro, Education Chairman, indicated that the pledge notices for our Cal Poly Workshop Fund will be mailed to all members next month. An active response by the entire membership is needed to keep this worthwhile Chapter program going. Bob Phillips of the Education Committee reported that he had made some contacts with Don Bryant of City College who will be looking for some Chapter help with the students, particularly with regards to counseling help, provision of occasional speakers and possible provision of part-time work for the students in our field.

Bob Noll indicated that so far we had received 85 registrations for our Air Balance Seminar. If the size of the class gets too large, it will be broken into two groups so that more class participation can be attained.

Val Burke, Region X Director, attended the meeting and gave a report regarding some of the happenings at the National level. Society membership was reported as presently being in excess of 20,000 members with a current goal of 25,000. Financially, the Society is in very good shape after having just received slightly in excess of \$200,000 from the Detroit show. National has established a Membership Achievement Award in the name of Lincoln Bullion. Gold medals will be added each year to a plaque which will be retained at New York Headquarters. Region X boundaries will be changed considerably as of 1969 and will extend from Fresno north to Vancouver. Mr. Burke requested that the Chapter review its membership thoroughly for possible candidates for fellows awards from National. The names and biographies of any deserving local members should be forwarded to National on a regular basis. National is becoming extremely concerned about the manpower requirements within our industry during the next 10 years. Figures indicate that our field will probably expand to at least 150% of its present size during this period and projected availability of trained personnel is expected to meet only 120% of our needs. This is a matter that we all must get concerned about and do something about if our industry is to keep pace.

After a brief recess, Bob Montgomery of Montgomery and Roberts, Consulting Engineers, acting as a panel moderator, opened a discussion on "Contractor Designed Projects." The panel consisted of Joe Beck of Atlas Heating, Dick

Friedman of Engineered Air and Charlie Hardeman of C. S. Hardeman.

Joe Beck indicated that because of the general economic trends of today, more and more owners, architects and developers are going to Engineering Contractors to get a job done in a hurry. The guaranteed job cost is also a very important item and time is always of the essence.

Dick Friedman stated that in his opinion there is a definite need in our industry for the Engineering-Contractor. This is particularly true in remodeling work where much of the design has to be worked out as conditions are exposed and pricing must, out of necessity, be based upon previous experience on this type of work. The Engineering-Contractor's design costs are pretty well known and are usually included as part of the contract price given for the work. They do hourly design work on occasion for certain good industrial customers and have at times received fees from architects on the basis of a percentage of the work installed.

Charlie Hardeman stated that many of the projects that they end up with as Contractor Engineered work start with some very brief outline specifications and only some architectural drawings. A price is usually wanted in a hurry and the actual final design of the systems normally wouldn't be done until after they had a contract to proceed. Until that time their engineering work would be kept to a minimum and pricing would normally be based on experience and some very basic engineering.

After the basic presentation by each of the panelists, there was a lively discussion period when both the engineers and the contractors expressed their opinions of why engineering work should be done by their respective groups.

The discussion was closed and the meeting adjourned at 10:00 p.m.

Respectfully submitted
Bob Voelz, Secretary

MEETING CHANGE NOTICE

The meeting date has again been shifted for April, and will be on Thursday, April the 13th.

She: "You drunken beast, if I were in your condition, I'd shoot myself."

He: "Lady, if you were in my condition, you'd mish."

* * * *

The Census taker was somewhat surprised when the woman of the house informed him that she was the mother of three sets of triplets.

"Do you mean to tell me you get three every time?" he asked.

"Oh, no," she quickly exclaimed. "Sometimes we don't get any at all!"

* * * *

Though I'll soon be pushing fifty,
I'm as solid as a rock,
And a devil at all parties
Until nearly nine o'clock.

MEMBERS AT JANUARY MEETING

Fred Espey
Frank Gonden
Lyle Schuelke
Pat Geis
Karl F. Tulp
Dan Marelich Jr.
Bob English
Leo Dwyer
Wanda Berry
Gordon Hazard
Pete Knezevich
Leonard J. Brown
Jim Van Buskirk
Carl Landers
Bob Swezey
Carl H. Jordan
Gene Valerio
John A. Lord
Glenn M. Jones
J. T. Chamberlain
Roger Chesebro
Bob Boyer
Jim Witham
Lewis S. Pollock
Al Scavino
Arel W. Berrier
Robert H. Braun
Ruhl A. Chiles
L. Shea
Dick Friedman
Thomas E. Brewer
Charles E. Butcher
Gus Gendler
Irving Alger
Robert Voe!z
Ken Mirov
Miles Suda
Leo Bus Pumphrey
Walt Crockwell
Ray Plass
John A. Linford
Chuck Bailey
Jim Booth
Jack A. Palmer
Bob Ruth
Howard Friesen
Gene DeWree
Dick M. Glumac
Frank Olsen
Richard E. Gee
Steve Wei
Charles Dombitsky
Karl Baldwin
Clyde Wilson-Reid
Earl Jacobs
Walt Schneider
Art Ciapponi
Mike Reichlin
William Felzer
Dan Kramer
Charles S. Hardeman
Rudy Pribuss
Harry G. Huey
Reid Chappell
Robt. Provo
Alan Shadgett
Wayne H. Womer
John Brose
Dick Fujioka

ILG Industries
Bentley Engineers
Kewanee Boiler Corp.
Eng. Air Systems
Edw. B. Ward Co.
Marelich Mfg. Co., Inc.
Harrison Mech.
Ralston & Dwyer
Marelich Mfg. Co.
Honeywell
Combustion Utilities Inc.
Bayha, Weir & Finato
A. O. Smith Corp.
The Trane Co.
Burke & Co.
G. L. Gendler & Assoc.
E. B. Ward & Co.
Climate International
York Corporation
Marelich Mfg. Co.
Fraser & Johnston
Honeywell
Fraser & Johnston Co.
The Trane Co.
Jos. E. Murray & Assoc.
Berrier Sales Co.
Charles & Braun
Charles & Braun
Shea Equipment Co.
Engineered Air
Calif. Hydronics Corp.
Johnson Service Co.
G. L. Gendler & Assoc.
GM & TR Simonson
Skidmore, Owings & Merrill
The Trane Co.
G. L. Gendler & Assoc.
Natkin & Co.
Cleveland Controls
Ray Bumer Co.
Linford Co.
Shell
Keller & Gannon
Calif. Hydronics Corp.
American Air Filter
Barber - Colman
N. J. Hatter
Buonaccorsi & Assoc.
Frank Olsen Co.
Bechtel Corporation
M. Rosenblatt & Son, Inc.
PBQ & D
Ramsey & Assoc.
Clyde Equipment Co., Inc.
Kennedy Engineers
Kenward S. Oliphant
Pacific Pumping Co.
Pacific Pumping Co.
Junior College
Charles & Braun
C. S. Hardeman Inc.
C. R. Reichel Engineering Co.
C. S. Hardeman Inc.
Kaiser Hospitals
Westinghouse Elec.
Westinghouse Elec.
Westinghouse
The Brose Co.
Rogers Eng. Co.

Tom Gilbertson
Jim Breese
Kon Keown
Tom Douglass
C. E. McLaughlin
Jim Lazor
R. C. Beggs
Phil Beggs
Clyde Burkey
Ralph Williams
Bill Gebbie
John Rhoads
Gene Hughes
Edward Long
Bob Montgomery
Duane M. Hanson
George N. Aronovsky
Don Campbell
Bob Wistort
Don Locke
Tom Conroy
Clyde E. Walters
Ed C. Leedom, Jr.
Frank Lockwood
Jim Dana

Johnson Service Co.
C. A. Gillet Co.
C. S. Hardeman Inc.
Douglass Insulation
American Blower
E. B. Ward Co.
Paul Beggs & Sons, Inc.
Paul W. Beggs & Son, Inc.
Lillard Co.
Lillard Co.
York Corp.
Peerless
Scott Co.
Honeywell
Montgomery & Roberts
Gayner Engineers
ITT-Hevac Furnace
Austin-Campbell Co.
Mickey Mouse Construction

Clyde Equipment Co.
San Francisco
All Filter Sales & Serv. Co.,
Oakland Schools
Rinco Engineering

GUESTS AT JANUARY MEETING

Leo De Winter
Sil C. Cruz
Gerry de Reus
Mel Melin
Fred Soderer
Joseph M. Roberts
Fred C. Kinschu
Aaron I. Curtis
Andy Feiner
George Wilson
Ed Kaufman
Ory Gruber
Carson Woo
Keith O. Alexander
Frank W. Baldwin
Leonard Kosiba
John Potter
Tom Genn
Gordan Goodding
Edmund Popp
Jim Emmons
R. H. Judd
Don Levensaler
Jess King
Bob Noll
Harry Hoppe

Water Treatment Corp.
Associated Const. & Engineering
Yanow & Bauer
The Trane Co.
General Electric
University Mech.
University Mech. Contractors
Honeywell
Tempco
Wilson, Ihrig & Assoc.
Regional Post Office
Charles & Braun
Charles & Braun
York Corp.

Charles & Braun
Charles & Braun
G. J. Yamas
G. J. Yamas
Rogers Eng. Co.
C. S. Hardeman Inc.
Montgomery & Roberts
P. G. & E.
Utah-Martin-Day
Servodyne Corp.
A. R. Peterson & Sons

Attendance Committee
A. L. Mudica



GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVI No. 5

FEBRUARY 1967

PROGRAM CHAIRMAN: ROBERT MONTGOMERY

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB NEW LOCATION IN THE HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STS., San Francisco on February 9, 1967, Social hour will be at 5:30 P.M., dinner at 6:45 P.M.

CONTRACTOR DESIGNED JOBS

Robert Montgomery, Program Chairman for the evening, presents a panel discussion which examines the practices of contractors who design air conditioning systems for buildings.

Panel members will consist of Dick Friedman, Engineered Air Systems, Richmond; Joseph Beck of Atlas Heating & Ventilating Co., San Francisco; and C. S. Hardeman of C. S. Hardeman, Inc., San Francisco. These gentlemen will reveal the esoterics of their operations, telling how they secure jobs, how they evaluate them for system selection, the economics of system selection and equipment selection, responsibilities they assume for installation, and operation capability.

Consulting Engineers in particular should find the meeting informational, since designing contractors generally have a different philosophy in approaching a job from the onset. One can assume that there will be a lively question and answer period at the end of the panel discussion. Bring a friend to enjoy the conviviality before, during, and after the meeting.

PRE-MEETING WORKSHOP

What does it take to get a contractor's license? What are the requirements for a professional engineer's license? Are the licensing laws too easy? Too hard? Should they be changed in any way to improve our industry? — — — Come to the Pre-Meeting Workshop at 6 p.m. before the regular meeting and find out what "experts" have to say.

FEBRUARY ANGEL
TUTTLE & BAILEY

New address and phone number

1300 Sansome Street

San Francisco, California

Phone: 434-3820

Inv. 2/16/67

Published monthly by the Golden Gate Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1371 - 15th Avenue, San Francisco, California 94122. LO 6-2740.

OFFICERS AND BOARD OF GOVERNORS 1966 - 1967

Arel W. Berrier _____ President
Larry Shea _____ Vice President
Robert Voelz _____ Secretary
Richard Friedman _____ Treasurer

BOARD OF GOVERNORS

George Aronovsky
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G. L. Gendler

COMMITTEE CHAIRMEN

Program _____ Larry Shea
Attendance _____ A. L. Mudica
Membership _____ Robert Tuck
Finance _____ Dick Friedman
Technical _____ Ken Mirov
Reception _____ Jack A. Palmer
Roster _____ David Rifkin
Education _____ Roger Chesebro
Publicity _____ Ron Wilson
Engineering Council _____ Robert Voelz
Research Fund _____ John Brose
Dance _____ Max Wolf

FOG DISPENSER STAFF

Editor _____ Pete Knezevich
Staff Writer _____ Jim Booth
Angel Procurement _____ Joe Murray

Two cows were grazing along a highway when a tank-truck of milk on its way to the distributor happened to pass by. On one side of the truck in big red letters was the sign: "Pasteurized, homogenized, standardized, vitamin A added." One cow turned to the other and remarked, "Makes you feel sort of inadequate, doesn't it?"

No man is entirely worthless. If nothing else, he can always serve as a horrible example.

* * *

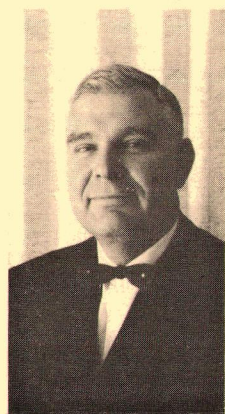
A masseur at Vic Tanny's didn't last long. He was rubbing the customers the wrong way.

* * *

In Russia the state owns everything. Over here, it's the finance companies.

President's Corner

Arel W. Berrier



In our discussion on incorporation at our January meeting, I failed to mention that National has also set down certain rules regarding Chapter publications. This is all a result of the unfavorable tax ruling by IRS a few years ago. Paid advertisements cannot be accepted and a sample of our regular publication, the Fog Dispenser, was sent to New York asking if our "Angel" method of raising money was allowed. A

letter has been received indicating approval of the "Angel" who donates \$30.00 per month toward printing and mailing charges.

It seems that every president should do his best to whip up enthusiasm on Chapter activities, and I for one would like to encourage everyone to attend the seminar on Air Balance starting on February 21.

Bob Noll has done a fine job in organizing the program, and I have been amazed at the enthusiastic response. Already, I have had calls from various Companies, and engineers outside our Chapter asking for details on time, cost, and subject material. Our Board expects an enrollment of 50 to 100 members. A mailing is being made not only to our own members but to outside engineers, contractors, and companies in this area plus the San Jose and Sacramento areas to develop the greatest possible interest.

The advantages of attending the program are two fold. We can expand our knowledge and understanding of this field, and the proceeds over and above expenses will be sent to National as part of our Research Fund contribution. This field is foreign to me as my business activities center in another area, but I plan to attend. Where else can you obtain such a bargain? You increase your know-how, and the money goes to a worthy cause.

I would like to think that this Seminar might be the start of a new era for Golden Gate Chapter. If this series is successful, this activity should become a regular feature of the year. When the program folder is received, please fill out the registration blank and send in your money. Let's all attend and make this a big success.

MAIL OR PHONE NEWS TO:

Editor, Fog Dispenser
% COMBUSTION UTILITIES INC.
1485 Bayshore Blvd.
San Francisco, California
Phone: 467-9076

MINUTES - JANUARY 1967

The meeting held at the Engineers Club was called to order by President Berrier at 7:45 p. m. Members and guests were introduced.

The minutes of the December 2 meeting were approved as published in the Fog Dispenser.

President Berrier announced that Val Burke, our Regional Director, was unable to attend our meeting as previously announced, but that hopefully he would be here for our February meeting.

Under committee reports, Roger Chesebro announced that the Cal Poly Workshop pledge notices would be sent out in January and that an early response would be appreciated. Bob Voelz reported that the Engineers Week Banquet is to be held this year on February 22 at the Hilton Hotel and that tickets are available from him at \$7.00 each. Dave Rifkin indicated that we currently had 263 paid members and that the Roster is going to press this month with only those names unless any outstanding chapter dues are paid immediately.

President Berrier announced that our Board and National strongly recommended that our chapter be incorporated as a non-profit organization. This step would clearly establish our tax status with IRS and would limit the liability of all members in the event of any suit against the Chapter. It was moved, seconded and passed that our Chapter take the necessary steps to incorporate.

Bob Noll announced that our Air Balancing and System Design Seminars were set to begin on February 21. The sessions would be held in the PG&E Building at 7:30 p. m. and would run for six consecutive weeks. The cost would be \$20 per person and all money remaining after expenses are met would be donated towards the National Research Fund.

President Berrier appointed a nominating committee to recommend a new slate of officers for the coming year. Tom Brewer, Gus Gendler, John Brose, Leo Dwyer and Rudy Pribuss were appointed to serve with Berrier.

President Berrier announced that the Board had reviewed the Engineers Club request for a \$1000 donation to help finance their new facilities and had decided that in view of the fact that we would undoubtedly be meeting here for many years to come and several other societies had already made similar pledges, we would pledge our Chapter to meet the requested donation. It would be paid over the next two years and be financed by raising the Chapter Dues \$1.75 per year for that time. Thereafter, a short recess was called.

Larry Shea, Program Chairman, introduced Richard Charles and Robert Braun of the Engineering firm of Charles and Braun, and Mr. Joe Roberts of the Mechanical Contracting firm of University Mechanical who spoke on the design and construction of the new one-million square foot U. S. Post Office facility in Oakland.

To give a little idea of the size of the project, Bob Braun indicated that it consisted of three floors of 400 x 700-foot work space, five floors of 30 x 60 foot office space and a vehicle maintenance facility. The facility will ultimately be

highly automated and will process between 2 and 2½ million pieces of mail each day with a peak of 1500 people per shift.

Bob indicated that in view of the large amount of interior space, the problem with this project became one of large interior heat removal, some 19 million BTU's per hour, while maximum heating requirements amounted to something like 4 million BTU's per hour. His firm investigated numerous different methods of providing cooling and heating facilities for the project, but finally selected a rather straightforward two-chiller, two-boiler approach in the end when their figures indicated that this was the most economical overall solution for the project. Single duct induction unit boxes were used in the fan systems to take advantage of some of the internal heat load for reheating.

Joe Roberts said that the simplicity of the system was particularly appealing to his firm. Although there was a considerable amount of sheet metal to be installed, his firm hoped to hang much of it before all of the shoring is completely removed.

After a short question and answer period, the meeting was adjourned at 10:00 p. m.

Respectfully Submitted,
Bob Voelz, Secretary

ENVIRONMENTAL ENGINEERING COURSE PLANNED

The National Society of Professional Engineers has a management contract with Civil Defense to administer Professional Development Courses for engineers and architects. Plans are being made to conduct a course in Environmental Engineering in both Berkeley and San Francisco during the Spring Semester, 1967. Anticipated starting date will be March 1 for the San Francisco Course and February 28 for the Berkeley Course. Please contact your local Civil Defense Officer for further information regarding the starting date and classroom location.

MEETING CHANGE NOTICE

The next Chapter meeting has been postponed one week, until Thursday, February 9, and will be held in the Engineers Club at 6:30 P.M. Pre-meeting workshop at 5:30 P.M.

YEARLY SOCIAL

Set aside June 10th for our Social that will be held at the famous PEACOCK GAP COUNTRY CLUB. This year's social promises to be a gala affair. Details to follow.

DYNAMIC DETROIT IS SCENE OF 1967 SEMI-ANNUAL MEETING

More than 20,000 ASHRAE members and guests are expected to meet in Detroit, January 30 - February 2, 1967 to attend events conducted and sponsored by the Society. About 3,000 of these visitors will hear presentations of papers at ASHRAE's eight technical sessions, nine symposia and four forums at the Society's four-day Semi-annual meeting at the Statler Hilton Hotel; all 20,000 will be present at the 18th International Heating and Air-Conditioning Exposition, sponsored by ASHRAE members and held, concurrently, at Cobo Hall.

Among the featured speakers at the Semi-annual Meeting will be Michigan's Governor George Romney, who will address the members and guests at the Welcome Luncheon on Monday, January 30; Dr. Ralph G. Smith, Professor, Department of Occupational and Environmental Health, Wayne State University, Detroit; and Dr. Richard C. Bates, medical internist of Lansing, Michigan, and a Fellow of the American College of Physicians. Dr. Smith will speak during the Opening Plenary Session, January 30, on INDUSTRIAL ENVIRONMENT FOR MAN; Dr. Bates' theme at the Banquet on Wednesday evening, February 1, will be HOW TO LIVE TO 100.

Special Events will include many interesting and informative tours: Henry Ford Museum at world famous Greenfield Village; Ford Rouge Plant; Detroit Edison Heat Pump installation; and Kelvinator Division Research Laboratories.

The Michigan Chapter extends a cordial invitation to attend this meeting and is looking forward to the pleasure of welcoming all ASHRAE members. Also, the Chapter urges members and guests to make their hotel reservations immediately. No reservations will be accepted by the Statler-Hilton after January 13.

(From The Hoosier Pacesetter)

At a party, two men who had not been introduced struck up a conversation. "Gosh, I'm all in," said one after awhile. I think I'll flirt with some good looking dame so my wife will take me home."

Dedicated and devoted, the golfers approached the cup on No. 18.

They heard a terrific blast in the distance, looked up and saw a mushroom cloud.

"Heaven help us!" shouted one. "It's a nuclear explosion."

"Go ahead and putt," said the other calmly. "The shock wave will be at least 10 minutes getting here."

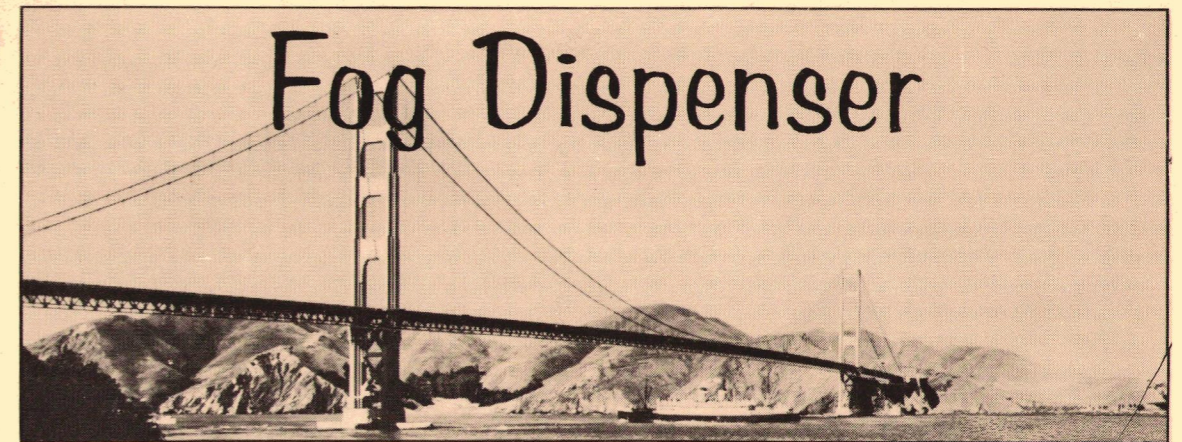
GUESTS AT NOVEMBER MEETING

Henry Page	Simpson & Stratta
Kaz Inouye	Kasin, Guttman & Assoc.
Edward M. Walker, P.E.	Bentley Engineers
Rich J. Omania	Bentley Engineers
H. Weihl	Bentley Engineers
Leo DeWinter	Water Treatment Corp.
Brad Boisjolie	
Ron Smith	Tuttle & Bailey
Gerry Roth	
M. T. Cory	Vann Engineering Corp.
Marlin Whitney	Vann Engineering Corp.
Laurie Ingram	Materials Survey Assoc.
K. O. Alexander	York Corp.
Albert Lew	Charles & Braun
Lance Walden	C. A. Gillet
Ralph Mumert	Dunham - Bush
J. K. Hackbarth	Remington Div.
H. S. Miller	Climate Control
Jim Coyne	Simpson, Stratta & Assoc.
Dick D. Young	Simpson, Stratta & Assoc.
Bob Yonontz	Simpson, Stratta & Assoc.
P. S. Guiral	S. O. M.
J. Parisi	Fereday
Andy Feiner	TEMPCO
Milo Sands	Kaiser Engineers
Bill Baker	
Lubhash K. Sattf	Kasin, Guttman & Assoc.
Royal Eapeseth	Williamson & Vollmer Eng.
G. F. Hallett	Floor Prod. Co., Inc.
Ralph Wallace	Bentley Engineers
Z. Cumali	Kasin, Guttman
Ruth O'Hare	Shea Equipment Co.
E. R. Kaufman	P. O. D. Engr. Br.
Bill Williams	Robertshaw
Jim Schuster	Robertshaw
Dave Kindorf	Montgomery & Roberts
Stew Larson	Concap Computing Systems
Dave Wilson	Pacific Pumping Co.
R. Scheunert	SOM
Glenn M. Jones	York Corp.
Jack Pfenninger	SOM
Duncan Kelly	G. M. Cooke Co.
R. H. Judd	Montgomery & Roberts

NEW HANDBOOK IN 1967

Starting in 1967, ASHRAE will publish a Handbook of Fundamentals, containing much of the basic material now appearing in the Fundamentals and Equipment volume of the Guide and Data Book series. Revisions in the Handbook will be made approximately every five years, or as deemed necessary by the Guide and Data Book Committee.

Also, in 1967, a revised Guide and Data Book, the Systems and Equipment volume (replacing the current Fundamentals and Equipment volume) will be published. In 1966 and 1968, revised Applications volumes will be issued. Both the Systems and Equipment and Applications volumes will continue to be revised and updated in alternate years, as under the present system.



GOLDEN GATE CHAPTER



ASHRAE

VOLUME XVI No. 4

JANUARY 1967

PROGRAM CHAIRMAN: LARRY SHEA

The next Golden Gate Chapter meeting will be held at the ENGINEER'S CLUB NEW LOCATION IN THE HONG KONG BANK BUILDING, CORNER OF SANSOME AND PINE STS., San Francisco on January 5, 1967, Social hour will be at 5:30 P.M., dinner at 6:45 P.M.

DESIGN PROBLEMS

Did you ever try to air condition twelve football-field spaces? Each twenty five foot high and loaded with machinery and people?

This is what the engineering firm of Charles & Braun was faced with a few years ago. The project was the one million square foot U. S. Post Office and Vehicle Maintenance Facility at Oakland. This \$18 million complex consists of a building 700 foot long and 400 foot wide, three stories high, with 25 foot floor to floor heights. It is to be chock full of conveyor systems, as well as people, on various levels. Sometimes it was necessary to run some of the 400,000 lbs. of ductwork on two levels to take care of the people manning the machinery. In addition, there was a five story office building, 60 x 300 feet. 1800 tons of refrigeration is required to handle the loads.

The firm of Charles & Braun will present the background on the project, the history, peculiar needs, and unique problems that were faced. They'll discuss the energy analysis, and a control system that monitors the air conditioning, fire control, and electrical systems.

Mr. Joe Roberts, vice-president of University Mechanical (San Diego) will advise us of the problems they have faced as contractors in the construction of the buildings. It promises to be an interesting evening for those interested in air conditioning engineering - - - or for those who wish to get their mail promptly.

PRE-MEETING WORKSHOP

We will continue to discuss "How Can Engineer's Specifications Be Improved?" Come and hear what complaints contractors and suppliers have and what the engineers have to say in answer. Come at 5:45 p. m. before the regular meeting.

JANUARY ANGEL
CALIFORNIA HYDRONICS CORP.

640 Bryant Street

San Francisco, California

Phone: 397-2336

Inv. 2/16/67

Published monthly by the Golden Gate Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, 1371 - 15th Avenue, San Francisco, California 94122. LO 6-2740.

OFFICERS AND BOARD OF GOVERNORS 1966 - 1967

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COMMITTEE CHAIRMEN

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Dance _____ Max Wolf

FOG DISPENSER STAFF

Editor _____ Pete Knezevich
Staff Writer _____ Jim Booth
Angel Procurement _____ Joe Murray

ENGINEERS' WEEK

Engineers' Week will be held during the week of **February 20, 1967** - The Engineers' Week Banquet will be held on **Wednesday, February 22** at the **Hilton Hotel**. Tickets will be \$7.00 each - details pertaining to ticket procurement and speaker will be announced shortly.

REVISIONS of BOILER SAFETY ORDERS

The proposed revisions to the Boiler And Fired Pressure Vessel Safety Orders for the State of California are now in effect.

All automatically controlled low pressure boilers must now have two gas valves, two low water cut-offs, and a manual reset temperature or pressure control in addition to the operating limit control - plus many other requirements.

For more specific information regarding the revisions contact the Division of Industrial Safety, Department of Industrial Relations, State of California, P. O. Box 603, 455 Golden Gate Avenue, San Francisco, California 94101, phone 557-0437.

President's Corner

Arel W. Berrier



The Christmas season and the New Years weekend with it's many bowl games will have come and gone by the time of our January meeting. I hope that they were festive and happy in the usual tradition and that this spirit may prevail throughout the year.

Our Chapter has completed a very successful portion of the ASHRAE year. The excellent attendance, quality of programs, and general good fellowship at our meetings is only one aspect of our activities.

The bulk of business and planning is conducted at our Board of Governors meetings.

A title of a program in the Oregon Chapter's publication, the Diffuser, "Ignore it and it will go away", may serve as an introduction to one of the subjects that has been working it's way to a successful conclusion.

I believe it is common knowledge that the national has lost a bout with the bureau of Internal Revenue who ruled that a portion of their income was taxable. Because of this unfavorable decision, every Chapter has been urged to establish its own Tax Exempt status.

Some people in the past have felt we should just forget about it, but our present Board has felt otherwise. Forms have been secured from the local Bureau, and immediately another question arose as to whether our Chapter should incorporate. The latest issue of the ASHRAE newsletter makes it very clear that each Chapter should incorporate. The main benefit resulting from this action would be the insulation against liability of its officers and members in cases of legal action.

The drawing of legal documents for incorporation may involve considerable expense and it is in this respect that I am asking the members cooperation. None of the officers or members of the Board know or are friendly with any legal office that could perform this task. If there are any chapter members who are friendly with or who regularly do business with a legal office, please contact me or any member of the Board. You may be able to save the Chapter a sizable sum of money in the process of incorporation.

MAIL OR PHONE NEWS TO:

Editor, Fog Dispenser
% COMBUSTION UTILITIES INC.
1485 Baysshore Blvd.
San Francisco, California
Phone: 467-9076

MINUTES - DECEMBER 1966

The meeting held at the Engineers' Club was called to order by President Berrier at 7:40 p. m. Members and guests were introduced.

Carl Jordan indicated that he had been misquoted in the minutes of the previous meeting and requested that the last sentence be removed from the summary of comments on his discussion. The remainder of the minutes were approved as printed in the Fog Dispenser.

Bob Tuck reported that we had 10 new members for National and that all unpaid National dues should be paid immediately.

Dave Rifkin announced that the Roster will be printed in January. To date there are still some 30 members owing Chapter dues and their names will not appear in this year's Roster unless the dues are paid immediately.

John Brose indicated that the Research Fund Committee is starting to move and has pledges for \$100 to date. Al Mudica stated that there were 142 members and guests present at the meeting.

President Berrier announced that our Regional Chairman, Val Burke, would be present at our next meeting to inform the Chapter of new National and Regional happenings. He also announced the National meeting in Detroit on January 30 to February 2, 1967. Thereafter, a short intermission was called.

Larry Shea, Program Chairman, introduced Mr. Zulfikar Cumali of Kasin, Guttman and Associates, who spoke on the application of computers to the Heating, Ventilating and Air Conditioning Field. Mr. Cumali indicated that while computers do not and cannot think for us, they definitely can be very useful tools in our field. They are capable of performing extremely complicated calculations in a matter of fractions of a second and storing vast amounts of data which can be quickly reviewed by the computer and used in the calculations.

The computer hardware generally in use today consists basically of an input unit, a control unit, a storage or memory unit, a processing unit and an output unit, all of which vary considerably in degree of speed and capacity. Several special computer languages have been developed to allow us to communicate with the computers to solve our problems. As a sample of some of the computer programs which Mr. Cumali has already developed or is in the process of developing, he told of and showed samples of input and output data on such items as heating and cooling coil selections, analyzing of duct systems to make them more self-balancing, analyzing two-pipe heating-cooling systems to determine the maximum temperature fluctuations which will occur through the year and analyzing design conditions and inside loads on buildings. One of their biggest problems to date in developing their programs has been their inability to obtain design information from the various equipment manufacturers.

In conclusion, Mr. Cumali indicated that through the use of the computer, we would be able to analyze many more conditions in building design than are now considered and we will be in a much better position to optimize both building installations and

operations in the future.

There being no further business, the meeting was dismissed at 10:00 p. m.

Respectfully Submitted,
Robert Voelz, Secretary

SEMINAR ON Air and Hydronic Balancing of Mechanical Systems

The delegates to the Region X meeting in Los Angeles last May were impressed with the Air Conditioning Seminar conducted by the Southern California Chapter who used this means for raising funds for the Research Fund. Golden Gate Chapter decided to follow their example, but the majority of members at our October meeting indicated they favored one on Air Balance rather than the broad field of Air Conditioning.

Your Board has been working with a Mr. Bob Noll who volunteered to organize and conduct a study course of this type. We can now announce that most of the planning and details of this program have been completed. The seminar will be slanted toward the design engineer with emphasis on system design and verification of performance in the field.

There will be six study sessions as follows:

- Engineering principles as applied to balancing
- Instrumentation, Application Procedures
- Balancing Devices as related to System Design
- Test and Balance Procedures and Technique
- Verification of system balance
- Special topics, Duct Leakage, Sound Balance, Reliability of readings, etc.

The exact meeting nights have not been set, but will probably be held during the latter part of February extending into March. They will be held in the evening at a meeting room kindly donated for our use by the Pacific Gas and Electric co.

The cost of the seminar will be \$20.00 per student, with the proceeds over and above actual cost of literature, mailings, etc. to be sent to the Research Fund as Golden Gate's contribution.

NOMINATING COMMITTEE

The nominating committee will be elected at the January meeting. This committee consists of 5 members, of which two are past presidents, President Berrier requests that chapter members come prepared to make recommendations for this important committee assignment.